

ARCHITECTURE

❖ VOLUME LXXII

JULY, 1935

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Rebuild America

❖❖❖❖❖❖ WE have two building jobs ahead of us. As citizens we will do our part to build a new and more truly democratic America. As architects we have similar work to do in a more material sense. In the world's history the great artists have always been men of vision. Leonardo and Michelangelo understood and worked in the larger world beyond the confines of their own workshops. They did not hark back to a civilization that was gone. They looked forward to a better one that was to be made, and they shared largely in the making of it. The architects of America, as men of vision, I am convinced are going to do the same.

These United States of ours have come to an important cross road in their history. Perhaps they face the most significant choice that has ever had to be made by a nation. For some of us the old road was a very comfortable one on which to travel. Are we trying to find our way back to it and travel forth once more in the hope that it will afford us all the old opportunities? Is there only this one way, backward? Must we wait for the old prosperity to come back to the select few so that we can serve them? Is that the only way in which we can hope to provide suitable environment for man's living, for his work, for his worship, for his recreation, for the affairs of his government?

There is another and a better road that leads out from this point, if only we have the sense to see it and the courage to take it. No matter how we stand, for or against the governmental procedure of the last few years, there is something stirring in our country which is immensely worth while. There is the intelligent tendency of the day toward a new and more vital democratic philosophy. It is not the first time in history that a broader social vision resulted from

a time of trouble than from eras of plenty. The frontier to be conquered is gone; out there the unknown wilds of lands and fortunes are no longer waiting to be conquered by rugged individualists. The mess after mess that the conquerors left behind them as they went out from frontier to frontier is right at our doors. The great era of expansion is over. The mess is to be cleared away. We have to do now a much more difficult and valuable task. We have to help bring order out of chaos; as we have said, both as citizens and as builders toward an ideal.

And this situation is particularly significant for the architect, for nowhere has the old procedure left its marks more patently than in the building of our cities, our towns, yes, even the structures in our wide-open spaces. A great part of all of this is obsolescent or worse. The new life, the fairer social order of things cannot be harbored in these old shells. Out of this time of trial will come for us a distinctly American way to provide a more just distribution of the proceeds of our joint efforts. There will come, too, the conviction that the old way of building was as wrong as the old way of making the fortunes that paid for it. Most of the products of that era are already obsolescent structures and unworthy to stay. A sense of order must be brought into the rebuilding process. I dare prophesy that the signs of the movement will be evident before long. The great question is: Will we stand for the old, petty, piecemeal, speculators' methods, leading again to uneconomic disorderly ugliness, or do we mean to work together, as social animals, for planned, large-scale, group operations, which alone can furnish an opportunity for creating a beauty in environment? Are we really going to rebuild America or just paint a false front over it?

ROBERT D. KOHN, F. A. I. A.

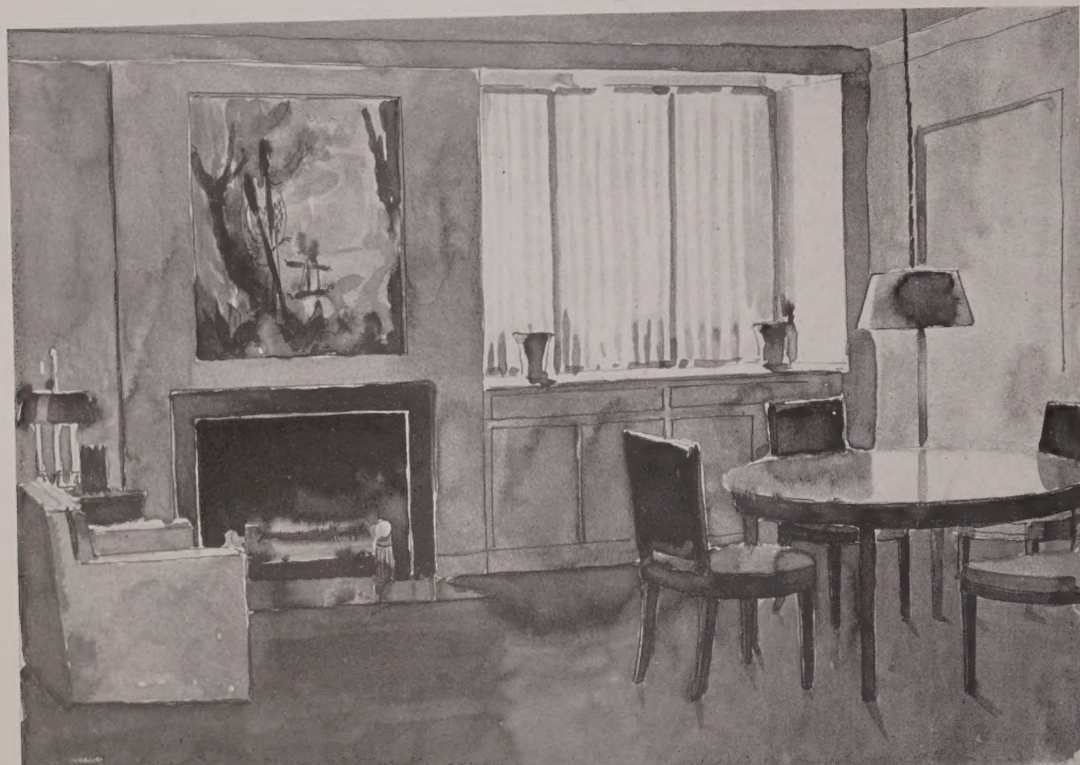
THE dining-room has for some time been showing signs of restlessness. Once again, after a long period of stability and assurance of an honored place on house plans, it is seen to be wavering. Shifting custom has been nudging it. Designers have been busying themselves more than commonly over it. Some have been pulling at it in

What Is Happening

By C. John

Following a widely expressed appreciation by architects of his article, "Why Not Design the Living-room to be Livable?" in the May issue, Mr. Marsman

WITH ILLUSTRATIONS

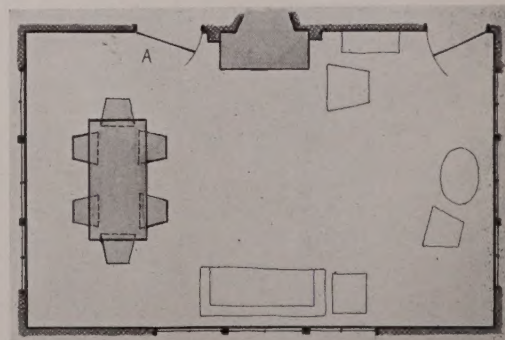


When the dining space is in the living-room it should be so planned as not to usurp room essential to living-room comfort. The leaving of the dining table and chairs in the most important part of the room is certainly questionable

While the plan in the sketch below is supposed to be that of a living-room, it looks to be as much a plan of a dining-room. The placing of the door from the kitchen (A) next to the chimney-piece might be without objection in a dining-room

one direction, some in the other. Some are prophesying that the dining-room is on the way out; others that it will lapse into the state of anonymity that it used to enjoy many years ago; while others, less drastically, say that it will by all means retain its identity, holding its place in many houses, but in a perhaps less rigid capacity than heretofore, witnessing an expansion—a flowering—of more variable and pleasant domestic customs, in which it will find itself deserted often for the outdoor eating space or even for other seasonally attractive rooms indoors.

The dining-room, or rather, to speak more inclusively, the place arranged for eating, has of all places in the house been most sensitive to change-urging ideas. A mere list of names serves to evoke a moving-picture of its previous adventures: Great Hall, Grand Salle, Milord's cabinet, Suppling Parlour, Eating Room, Antichambre, Petit or Grand Salon, Salle à Manger



—Dining-room. It is a fragmentary list at that, but illustrative. In some of its conditions, as for example in the indeterminate form it assumed in early colonial houses, the eating space was incorporated with the common living-room and kitchen, and had no name. Nor could it have a generally understood name in the finer and gayer houses of France and Italy, where for a period dining seldom occurred in the same

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to the Dining-room?

Marsman

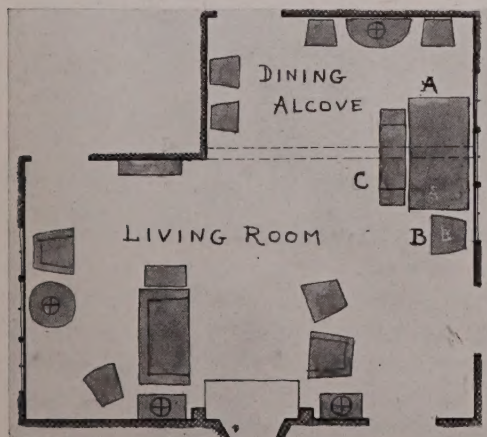
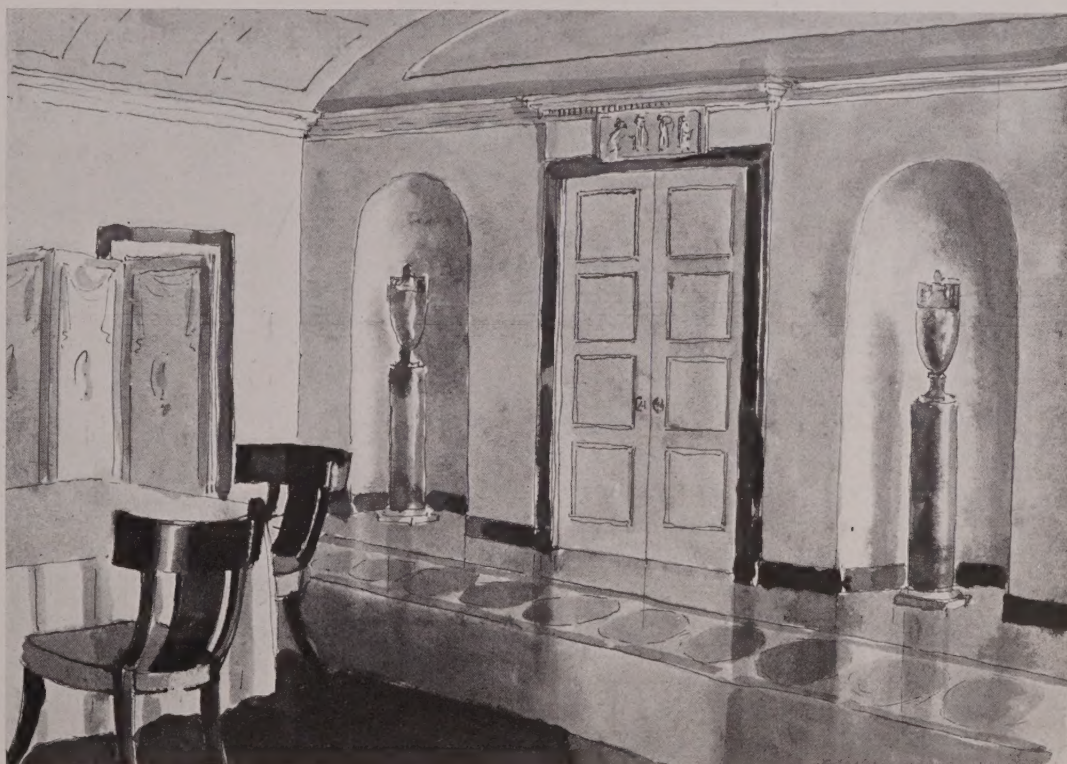
BY THE AUTHOR

moves on to the dining-room. The viewpoints

of architect and interior decorator should be fundamentally similar, yet the results are not.—EDITOR.

Now that there is a tendency in dining-rooms to eliminate all but the necessary in furniture, the niche and other such architectural features are welcome helps in the decoration, both of the formal and informal room

In the sketch below, the dining table and chairs have not been left standing in the dining alcove of the living-room, but have been placed so that they harmonize with the living-room in general. The table (A) is placed against the windows. (C) is a bench, (B) an arm-chair, ready for use at the table, and other side chairs can be drawn up



place twice in succession, flitting from anti-chambre to salon or out to the pavilion by the water, or to the terrace, or back into the small boudoir. But later, after once being pinned down and established on architects' plans, it became constant enough. And so it continued for many years, until recently.

The most interesting fact, and the most illuminating, about the current ideas is that they originated constructively, not in the great house as heretofore, but in the small one, and not in the large but in the small city apartment. Many a small-apartment dweller has known the necessity of doubling up in his living arrangements. If he, or she, has been the kind who wishes to

arrange his small apartment for the greatest possible degree of pleasant living, he has often preferred to occupy but one room, if it is a reasonably large one, rather than a combination of two or even three small stuffy rooms. (He has, incidentally, seldom got much of a break from the architect. The average contemporary one-room apartments—"one large room, kitchenette, bathroom, foyer, built-in bed, etc."—are so badly cut up with doors or otherwise made objectionable that he has had much better luck in finding at least a possible arrangement in some of the remodelled old houses. But perhaps his break is coming. A recent advertisement radiates cheer, thought the word "artistic" is daunting: "The architect imagined apartments so designed that everything a modern apartment should possess was there—spaciousness, sunshine, air, ample closets, bright kitchen, artistic fireplace, etc., etc.") But if the apartment dweller has occupied a single large room in



The dining-room here is neither a private room nor an alcove. It can receive no satisfactory unified decorative treatment in the face of the large wall opening

The niche or recess for china is one of the most characteristic and delightful of dining-room features

preference to small rooms, he has been impelled to budget his floor space. Some of the space necessarily has had to be put to double duty. That for eating, especially, being but temporarily in demand, can be made by the slight rearrangement of table and chairs, to revert to its normal living-room appearance. Furniture designers have not been uncognizant of this doubling-up necessity. And as a practice the disassembling of the dining group of furniture, the disassembling of it in a room normally used for living, has its good points. It is preferable, it seems to me, to certain expedients suggested on house plans where the dining space has been shifted into the living-room.

Such a shift, it appears, has been impending in many small houses for quite a while. In these houses the dining-room has been on the verge of moving back into the living-room through a large wall opening. Often it is to be found threatening to flow over through a similar opening into the entrance hall itself. This type of wall opening seems to have been perennialized in the nineteenth century in Eastlake's time, in the form originally of huge sliding doors and gaps lushly screened with portières. (It is unfair to blame Charles Eastlake for this and many other things of its kind, as has been done. He wrote, besides, some very good books.) The advantages of this long-favored device, shorn or not of its doors and portières, as a means of suggesting spaciousness and breadth to a series of rooms are outweighed by decided disadvantages, both practical and æsthetical. It is not in itself a beautiful feature nor an aid to the de-

sign of any wall that it appears upon. It interferes with the full enjoyment of the room it dominates. Whenever the dining-room is enclosed within walls and is given an identity of its own, it seems logical to conclude that the walls are there to insure privacy for the room, and a quiet peaceful air suitable to the purpose of the room. And as the dining-room is dedicated to a very definite purpose, it should also,



it would seem, be entitled to receive an appropriate and distinctive decorative treatment. But the difficulty of giving it either privacy or a unified decorative treatment in the face of the old-fashioned large wall opening is obvious, although this has not been, and is not today, unfortunately, always recognized. The whole practical and decorative problem is altered, on the other hand, when the dining space is placed in some part of another room, for it is then no longer sufficient unto itself as a unit but is an adjunct, a detail, of another space.

It is said that the persistence of the dining-room as a unit in the smaller house is a matter of habit, and that contemporary living can do without it. This argument does not issue only from the camp of the arbitrary designers. It is voiced by intelligent people everywhere who have begun to realize that their ways of living are no longer those that made a separate dig-

nified room for dining requisite in the first place. There are many signs of change. To cite but one example: the leisurely, charmingly conversational, well-planned dinner party—it can be one of the most enjoyable of experiences—while not extinct nowadays, is certainly the exception rather than the rule among dinners. It is no longer, as Madame du Deffand in the eighteenth century said, “one of the four ends of man, and what the other three are I can never remember.” More typical of the present idea about dining, though of course not altogether representative in the midst of so much variety in contemporary habits, is the situation outlined in the following recently made statement: “The active lives the majority of people are leading



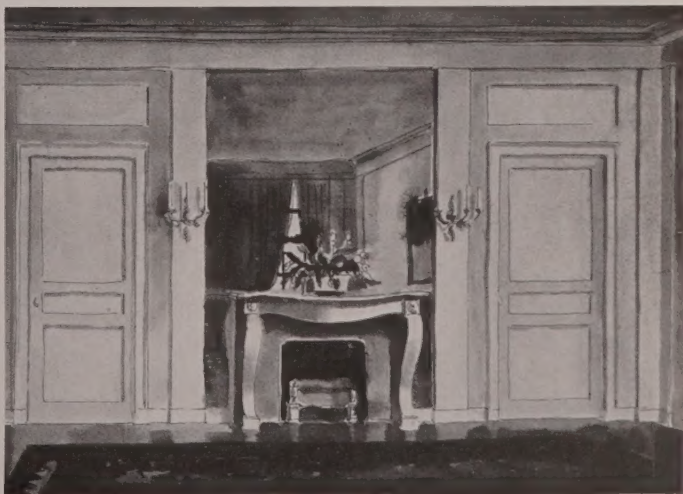
The current inclination to clear out the unnecessary in houses, to open them up, to pour all their available spaces into one, to create a structure that has “flow” and ease, sets up a distinct problem as to how to deal practically and decoratively with the dining space and equipment when it is no longer contained within its own distinctive surroundings. Something more is called for by discriminating people (and they are worth considering, for they uphold the standards of good taste and make work interesting) than the placing by architects on living-room plans of symbols for table and chairs somewhere near the door from the kitchen. Some such heedless placing was suggested, and carried out as well, in a recently published plan that showed the door from the kitchen on an adjacent wall close to the living-room fireplace; the dining table and chairs in the completed room are left standing habitually in the one spot where one has every right to look for a great deal of living-room comfort, near the fireplace. In other houses the full regalia of the former dining-room—chairs, table, sideboard, and even the old china closet—have been moved into an open corner of the living-room!

There are a great number of variations of plan possible in the merging of dining and living spaces. But in all of them, wherever there is no separating and dissociating wall, the dining space, whether it is labelled “dinette,” or “alcove,” or “buffet,” or simply “living-dining,” or is dubbed a “makeshift” (as has been done by one eminent protestant among architects), is admittedly the subordinate space. Even if it

Another use of an architectural feature for the display of really beautiful china

Doors close to the chimney-piece in the dining-room are not objectionable from the practical viewpoint as they are in the living-room

make them take even their pleasures rather strenuously. Conversation is no longer an art, and society hurries through its dinner to rush to the theatre or opera, to dance or play bridge. When one is satisfied one has finished. Three courses for lunch, and four for dinner, are adequate. In addition to the brevity of the meal itself, the food is usually far more simply cooked than it was twenty years ago, when one of the popular amusements was guessing what one was really eating, hidden under the rich sauces and quaintly shaped pastries, all served with an elaboration that was part of the day.”



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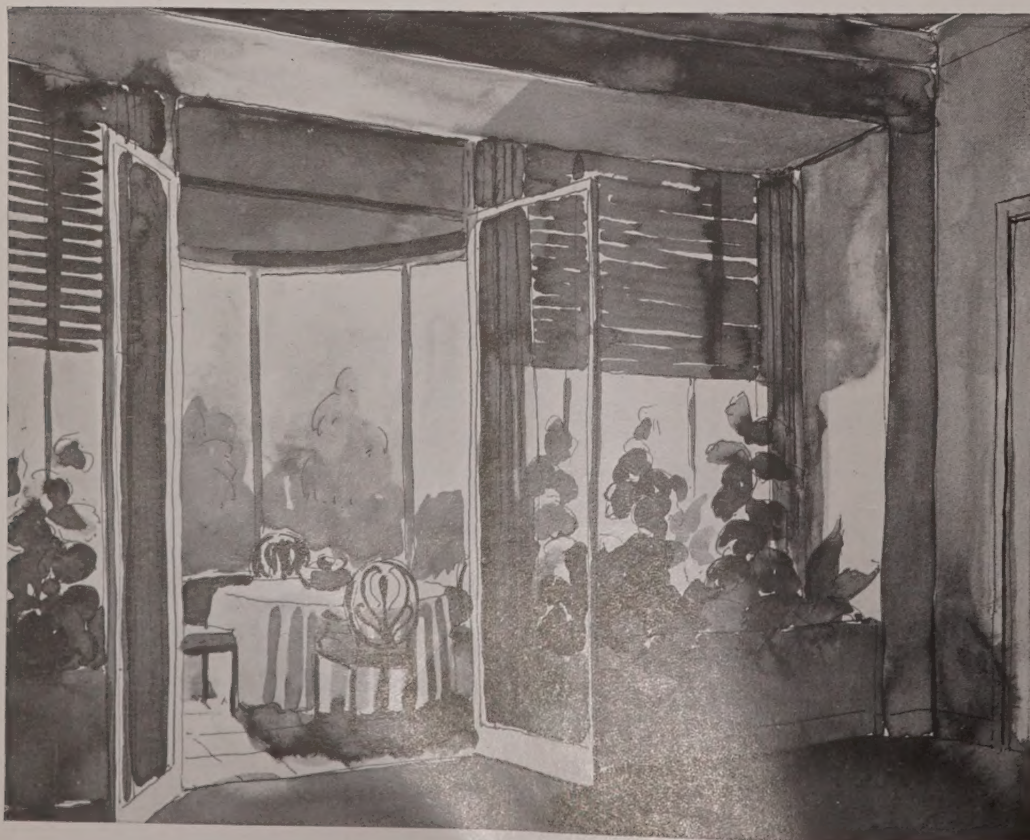
can be hidden by screens or curtains "while the table is being set," a suggestion so often made, this space most of the time is still a part of the living-room, and designedly so. The selection and the distribution of the furniture in the dining part of the room should be considered then from two points of view, and the point of view of the living-room must dominate. The large dining table, be it square, oblong, round, octagonal, or oval, surrounded by chairs (it may be by the unimaginative and, let us hope transitory, metal tube chairs), when taken out of the dining-room where it is at home, is not an inviting or pleasantly decorative spectacle. A long psychological essay could be written, I suspect, on the depressing influence of such a constantly present spectacle in a living-room. A tip with regard to its disposition can be taken from the apartment-dweller. The table, if not too overwhelmingly large, instead of being left out in space, surrounded by chairs, looking more like a setting for a directors' room than anything else, can be shoved back against the wall and the chairs placed here and there away from the table when not in demand for dining. These chairs need not all be of the same design, or upholstered with the same material, and they can be varied—armchairs with side chairs. The effect should suggest "living-room" as much as possible. The table can perhaps be kept end-on against a wall, or a window, or built-in bookshelves, and a chair or two be left by it, extra chairs being drawn up for meals. Placing the

table in a secluded corner or in a bay window by some built-in seats seems a good idea. As to the other traditional accessories, the sideboard, china cabinet, "buffet," wooden urns on pedestals, and so on, most of them seem to have no place in the living-room. Such adaptable pieces, however, as the chest-of-drawers, the French or English style of commode, the cabinet of acceptable design, the console table, and the built-in and not too obviously "dining-room" feature, all have consistent possibilities. They are properly used in the living-room, and, while part of the "dining furniture," need not necessarily all be placed in the dining part of the



The centrally placed door in a dining-room usually requires a balanced arrangement of furniture on either side of it. If for any reason this is impractical or undesirable, it is better that the door be placed if possible toward the end of the wall, so that a single piece or group of furniture can occupy the center

The summer dining-room can be placed on a terrace or deck, surrounded by wire screening, and covered with awning or a permanent roof. Furniture can be varied by the use of table and chairs in painted iron or in rattan



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room. There is much variety possible here. The rigid conventional dining-room ideas having been broken up so far, they must unbend all the way. The problem of designing, furnishing, and decorating adequately the combination room is a strictly modern one, and can be solved delightfully, or ignored. And will be—both! For the most livable and generally pleasing results, it is more than ever to the purpose that, while planning combination rooms, the architect visualize the exigencies of furnishing and provide for them accordingly.

The other kind of dining space, the dining-room that is a separate unit, requires this pre-visualization of furniture placing no less. This idea is more forcibly true than ever, nowadays, when the superfluous in dining furniture is being

discarded and when what is left has to be placed to fine advantage in the room, not only so that it will function well but so it will make for the most pleasing decorative effect. Much of the old-fashioned furniture is in the discard, praises be! along with the dead game and fish and luscious fruit pictures of another day. Fine examples of antique furniture will be retained and used thankfully as long as they hold together. But the dining-room "set of furniture" is no longer in much demand, and is disappearing from the floors of the better furniture shops. Agreeably harmonizing pieces of furniture are assembled instead. A sideboard or commode—or their architecturally provided equivalent—a console table or two, possibly a serving-table near the kitchen door behind a screen, and table and chairs, seem to meet the average requirements. Cabinets of good design, or architectural wall recesses or niches can hold china if there is a fine collection that must be displayed.

S

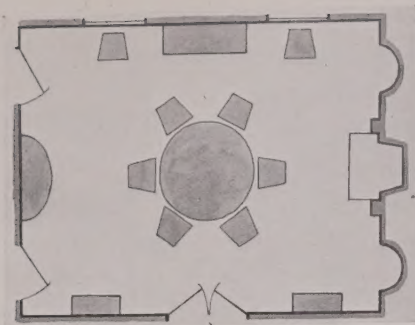
One of the most interesting of all rooms to design and arrange is the "formal" dining-room for the large house, apartment, or club. Of this type the most satisfactory rooms created recently, at least in my opinion, have been those that have drawn on the old, the traditional, for a measure of support in the design both of architecture and furniture, and on the contemporary for its realization. This drawing on the traditional might consist in no more than an observance of good proportions and a pleasing balance or rhythm of decorative features and furniture.



While the practice of hiding a fine piece of furniture in a wall recess is not a good one, still the above sketch contains a suggestion for the possible treatment of a wall opening that has been filled in and backed with mirror. The sideboard could be a built-in one and treated as woodwork

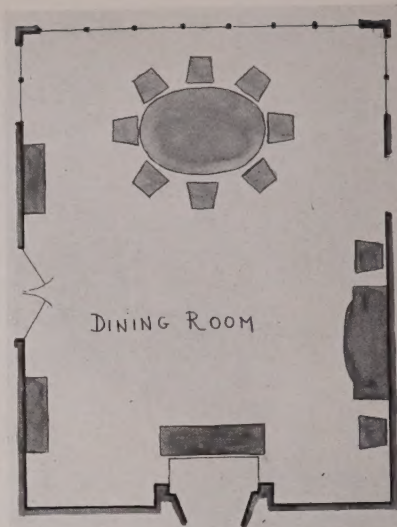
The placing of tall wrought-iron candelabra at either end of a long table is but one of a number of decorative effects possible in the lighting of the dining-room





The small dining-room that has borrowed the carefully balanced plan of some of the fine old rooms, but has its whole decorative scheme realized in terms of "contemporary" simplicity and restraint, can be a very successful room

The conventional placing of dining table and chairs in the center of the dining-room can be varied in a room that possesses a large bay or expanse of windows, by setting this furniture near the windows



Oval, round, and even octagonal plans have produced some very handsome rooms. An effective idea, and an up-to-the-minute one, for a strong central or repeated decorative fixture, is the setting of a cabinet or console table against a large, wall-high, slightly recessed mirror. The other appropriate furniture, because again reduced to essentials according to contemporary standards, must more than ever, in this kind of room, be studied for excellent placing. The size of the table and number of the chairs are naturally governed by the requirements. Such chairs as are not kept habitually around the table can be set to good decorative effect against wall spaces.



A decided help to the pleasurable quality of any dining-room, be it "formal" or not, is the fireplace. It is a luxury that every one cannot have. The placing of a door or doors adjacent to it is not objectionable in the dining-room, as it is so positively in the living-room. In fact, the symmetrical design of chimney-piece plus doors can be a beautiful one in the dining-room, and the presence of the doors on either side of the chimney eliminates the necessity of placing two more pieces of furniture against the wall. The same necessity of symmetrical balancing of furniture is avoided if the entrance door is not placed on center. For no placing of furniture on either side of a centrally placed chimney-piece or door in a dining-room is as satisfactory as the symmetrical one—a balancing even of identical pieces. And for this reason, if such an arrangement should be impractical, it is often better to place the door, if possible, near the end of the wall. Because of the small variety of furniture required in the dining-room, it is desirable, if the room is to have any decorative pretensions at all, that the furniture be placed to good effect. From this standpoint, there is no room in the house that can suffer more from the injudicious placing of doors or the presence of too many

doors. If several doors are required, the blind door can often be used to good purpose.

A thing that is stressed in designs of contemporary houses is exposure—as much exposure to sunlight and air as possible for every room—floods of sunlight as well as an intimate view of the fortunately adjacent landscape. That is all to the good. The dining-room receives its eastern exposure, to be wished for particularly when there exists in the house no separate room for breakfasting. Speaking merely from the standpoint of the decorative qualities of a room, however, there is no doubt that most rooms are at their best at night under artificial light. And it is very interesting to observe how little direct sunlight a room requires—still regarding the question from the decorative viewpoint—to be at its best in the daytime. There are rooms and rooms, of course, and sunlight is a very welcome thing in most of them. But shadow has charm as well. It is as potent a decorative agent in a room as it is on the exterior of a house. A judicious regulation of light by curtains or blinds in the beautifully appointed room is usually found best. The "health room"—all glass, all exposure—is another thing. It has turned its attention out-of-doors rather than in. Eating out-of-doors on the screened-in porch, deck, terrace, or loggia is being enjoyed more and more as people recognize the advantages of these outdoor rooms. And the inclusion on house plans of facilities for outdoor eating makes not only for more pleasant living, but also for a much appreciated change and rest from eating in the indoor dining-room or dining-nook or alcove.

The artificial lighting of dining-rooms can often be a problem. The central electric fixture

gives an unrelenting glare to the whole room that irks many people. Wall lights are not always well placed. I know of a fine dining-room that had wall lights in all four corners, leaving the center of the room, about the table, in obscurity. Candles could be lighted on the table during meals, but for general purposes the wall lights were far from adequate, and had to be supplemented by others nearer the center of the room.

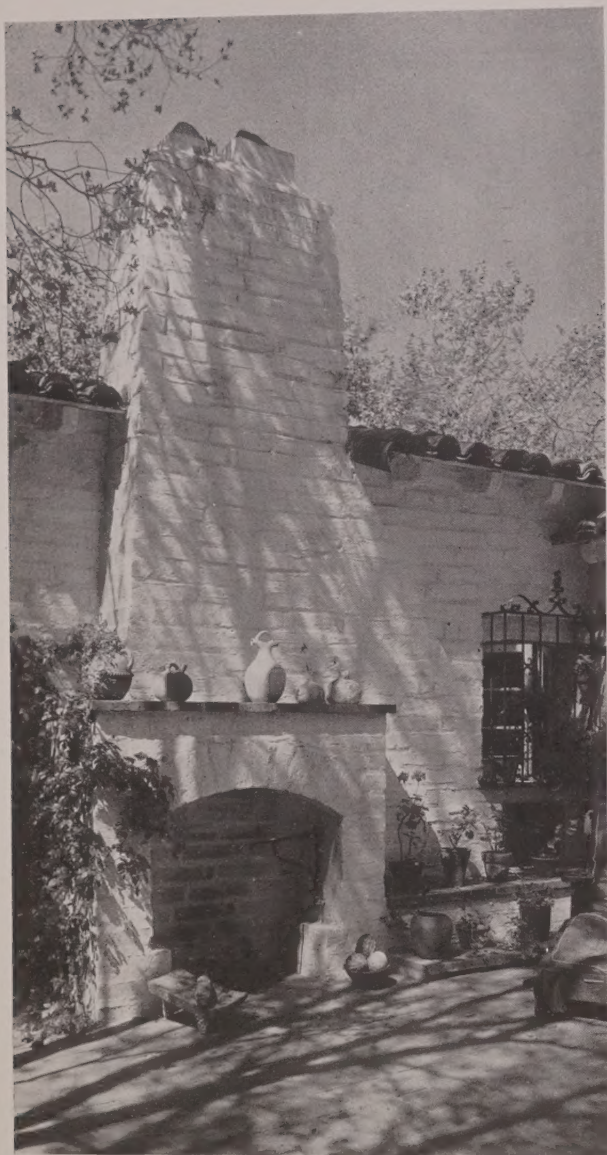
Candles for the table seem to be a universal favorite. Indeed some people still use them as the only source of light during a dinner, not only on the table but placed against the wall in mirrored appliqué, and on the mantel-shelf. The lighting of the dining-room, like that of the living-room, is governed a great deal by personal preference, and by such taste as is involved. The variety of these preferences and ideas, and their decorative possibilities, makes the subject of great interest: the chandelier, the lamp, the pedestal light throwing an indirect illumination up on the wall, the tall floor candle-labrum, the concealed system of lighting of ceiling or wall recesses, the drop-light over the table, all have their adherents and their qualifications. One form of fixture, however, that must pass into limbo with the dead game pictures, the plate-rail and the golden-oak buffet, is the colored glass "dome." In general, nowadays,

a soft glow with adequate lighting of the table is preferred to brilliance and perfect clarity. The lighting of every room deserves careful study. The central fixture should be considered twice before used.

In conclusion, a word about the "atmosphere" of dining-rooms. I believe it is true that a certain sense of formality in the arrangement of design is not unpleasant in any dining-room. It is a hackneyed word—formality—and much out of favor. But a little bit of its quality mixed judiciously in the make-up of a room that one enters perhaps but two or three times a day, to relax pleasantly though not to lounge, to eat in and to enjoy, more than elsewhere perhaps, the interplay of good manners, is not out of place at all. It is present to a degree in dining-rooms through the mere regular patterning of the dining table and chairs. And it can be achieved further and very agreeably—is there any room that should be *more* agreeable, cheerful, even gay, than the room in which meals are taken?—by some of those special dining-room features, such as corner cupboards or built-in niches for fine china or glass, and possibly a floor of tile, composition, or marble. To add to the cheerful effect and to that something of formality, the appearance of a patterned or scenic wallpaper is just right in a dining-room, and the presence of plenty of flowers.

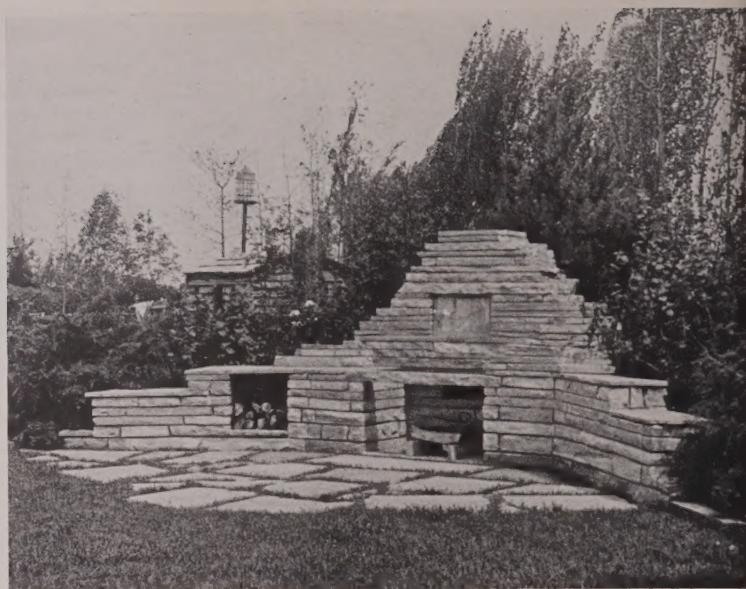
The architecturally designed console table placed against a mirror, as in the accompanying sketch, can be a handsome feature in a dining-room





*Fireplace in the patio of
William L. Horton, Bel-Air,
Calif. Gerard R. Colcord,
architect*

*A fireplace built of granite on
the estate of C. A. Griffith,
Azusa, Calif. The trees of
the grove are the native Cali-
fornia sycamore. Charles
Gibbs Adams, landscape ar-
chitect*



*An outdoor fireplace built in connection with the Horti-
cultural Exhibit at the Century of Progress Exposition,
Chicago, 1933*

Outdoor





Fireplace on the estate of James Lee Loomis, Granby, Conn. The table in the foreground has a millstone top. Thomas H. Desmond & Associates, Inc., landscape architects

Fireplaces



Fireplace in a corner of the patio of Ernest Klepetko, Huntington Palisades, Calif. W. P. Herbert, landscape architect

Fireplace in "Camellia Walk," the garden of Mrs. Caroline Adams, Pasadena, Calif. Charles Gibbs Adams, landscape architect



Federal Housing and the Architect



By Miles L. Colean

DIRECTOR OF THE TECHNICAL DIVISION, FEDERAL HOUSING ADMINISTRATION

THE architect may ask, with reason, what will be the effect, if any, of the housing activity of the Federal Government upon the physical aspect and arrangement of our dwelling structures. A fair answer is that the effect will vary directly with the interest shown in such activity, and the support given to it, by the architectural profession.

It must be borne in mind, that in only a comparatively small part of the total residential construction to be anticipated in the coming years can the Government exercise a direct control over the character of the buildings. The excellent demonstration projects to be erected by the Housing Division of the Public Works Administration cannot in any normal year constitute a major portion of new housing activity. Besides these, only the work of the Subsistence Homesteads Division and the reconditioning work of the Home Owners' Loan Corporation, neither of which should bulk large in construction statistics, are planned and conducted under direct governmental supervision. The really great volume of residential construction with which the Government can be associated involves only an indirect control, through the medium of mortgages insured under the National Housing Act.



Any control, such as that established by the Federal Housing Administration under this Act, will be most effective where it is not control at all, but rather an agreement between the public and the Government as to what good housing should be. Such an agreement, in view of the general lack of public knowledge of and enthusiasm for high standards, will require a great deal of educational work. To put it frankly, the Government recognizes the fact that such standards cannot be enforced until the public is ready to demand their enforcement. It relies for aid, therefore, upon the important groups who are cognizant of the need for improved standards; and among these groups the architectural profession has a prominent place.

Some explanation is required of the method of approach to the problem which has been adopted by the Federal Housing Administration. Essentially it is a realistic approach. It derives primarily from the careful survey of existing housing conditions which was made by the Real Property Inventory during the winter of 1933-34; then from the public attitude toward housing standards inferable from this survey; and finally from a thorough study of the intent of the National Housing Act itself. On the basis of such an approach, many compromises are made necessary, with what scientists and humanitarians might set up as ideal. Minimum requirements for the present must be all too low if standards are to be made effective and enforceable; but progress to a more nearly ideal condition of things can be made gradually.



Any program for dealing with a change in existing conditions must fully weigh the strength of the opposition to change which those same conditions may present. We have for instance in this country approximately 25,000,000 dwellings, representing an estimated mortgage debt of nearly \$20,000,000,000 and a probable valuation of \$70,000,000,000. This money, whether in mortgages or equities, represents for the most part the investment of the savings of millions of people. Obviously, it is a major part of the wealth of the country.

Wealth in real estate, while not permanent, is consumed very slowly. Existing dwellings are adapted to a certain rate of obsolescence, based upon a generally accepted opinion of what constitutes habitable housing. Anything which tends rapidly to increase the rate of obsolescence tends to create an unbalanced distribution of wealth. This is true always of individual wealth, and is true of the general fund of wealth when the means are not also provided for simultaneously producing more wealth.

It should be evident therefore that any arbitrary raising of housing standards which would increase the rate of obsolescence of the bulk of

existing structures, and which would consequently render difficult or impossible the maintenance of a sound financial status for such buildings, would affect adversely the liquidity of the real-estate market and depress values. And, although it is obvious that no obligation exists to preserve existing values in perpetuity, or to uphold a fictitious level of values, it is equally plain that violent disruptions of the value level must be avoided if we are to have an orderly and sustained development of land.



Far from tending to produce violent disruptions of a value level, the Housing Act was definitely designed to eliminate the unbalanced fluctuations which have been characteristic of former methods of real-estate development and finance, and to prevent the alternate periods of free and excessive borrowing and of overloaded and frozen debts which accompanied them. The Act substitutes for former practices a system of long-term, steadily amortized financing, which prevents the borrower from being subjected at any time to large payments, and which insures the lender against the loss of principal.

The importance of this simple change to the construction industry, and consequently to the architectural profession, is clear. In the first place, anything which eliminates the uncertainty in the availability of capital is helpful to orderly progress in building and land development. More important, however, from the architect's point of view, I believe, is the device which the Act creates for adjusting the rate of the retirement of a loan to the rate of physical deterioration and obsolescence of the property.

The present real-estate debt incumbrance has been too greatly a system of permanent debt. People borrowed on a straight mortgage basis for repeated short terms without intention of repayment, expecting confidently that in the end a rise of property values would more than take care of the matter. The result has been that the value of the property became involved with the debt structure. Every effort was made to peg the former at a point which would sustain the latter. Consequently, every move to improve standards, to reduce the cost of producing equivalent properties, and frequently even to produce an adequate number of buildings, was strongly resisted by borrower and lender alike.

The long-term amortized mortgage, after the pattern set forth in the National Housing Act, breaks this jam. It places the real-estate debt

on a basis that it is gradually liquidated, leaving the property debt free. Thus it is in a position where its removal from the market produces no financial vacuum, and consequently, where its continued utilization can be based solely upon its utility as determined by the standards accepted at the time. The old-fashioned mortgage, by the stagnation of debt, tends to produce a constant lowering of housing standards, and to balk such technological development as would endanger its claims. The new mortgage makes an improvement in standards over a period of years readily possible, without a disruption of the financial system.

As I have said previously, this raising of standards must be a gradual process. Adjustments must be made according to availability of existing structures, the ability of the construction industry (which includes the architectural group) to produce structures better than existing ones at lower cost, and in response to the demand of the public generally for better living conditions. The point is, however, that under the new system, no matter how slow they may appear to come, such adjustments can be made.

In view of the foregoing, the standards set up by the Federal Housing Administration and embodied in its Circulars Nos. 2 and 5 ("Property Standards" and "Subdivision Development") will be seen to constitute a step, but only a first step, in the direction of better housing conditions. In the matter of design and structure, they require at the present time no more than what the honest architect and the honest builder of average skill would of themselves produce. The highly competent practitioner will find them below his own standards; but he must remember that they are set up, not as a description of a model building but as minimum requirements for any house now existing or to be erected anywhere in the United States upon which an insured mortgage is desired.



The emphasis throughout is placed not so much upon structure and design as it is upon neighborhood and upon the relation of the dwelling to its land and its general environment. This may seem to architects an unbalanced treatment of the factors with which they are most concerned. It should be readily apparent, however, that such is not the case. The first essential to good housing is obviously a good neighborhood; and by a good neighborhood is meant one which is reasonably secure in its resi-

dential character, where the buildings which may be erected there and the uses to which they may be put are assured to be compatible with that character. Manifestly, it is a neighborhood where schools, parks, and means of transportation to work and to shopping centers are readily accessible.

The second essential is that the dwelling itself be so located that adequate light and air and privacy may be guaranteed to its occupants.

Emphasis on these factors means several things. It means on the one hand that the houses which the architect designs will be protected in their utilization against the intrusion of inharmonious and deleterious land uses. It means that neighborhood will be looked upon distinctly in relation to their residential characters as such, and that development will be directed to sound investment in good housing rather than to speculative building which looks forward to early removal for a more intensive use. It means also that in neighborhoods so dedicated, and on lots so laid out, dwellings will be less affected by obsolescence from the blight and deterioration which are the inevitable results of badly planned and unprotected neighborhoods. From this it follows that houses will not be rendered useless before their time, obsolescence may come to be calculable on a more scientific basis, and investment in property rendered more secure.



This emphasis should produce a further result. By improving at once the basic factors of good housing, and by assuring their maintenance, the improvement of the standards of the dwelling itself becomes more practical and more likely. Dwellings will be less apt to be allowed to deteriorate because the neighborhood is shifting. New equipment will be installed. Alterations will be made. And when the period of economic life and of reasonable habitability has been passed, there will be less likelihood of abandonment to uses which are socially unde-

sirable, and, I believe, more likelihood of replacement with up-to-date structures.

The broader results of these measures may be summarized as follows: We have for the first time a system of real-estate finance which may be synchronized with the obsolescence of real-estate improvements, and which, therefore, should with little violence to the financial structure permit the removal of obsolete structures from the market. With the incubus of a permanent real-estate debt removed, great possibilities are opened up for raising housing standards, for speeding up technological advance, and for meeting changes in the levels of construction costs with diminished hazard. With the stabilization of neighborhoods, and the narrowing of the factors of obsolescence more closely to those inherent in the structure itself, we should see a greater confidence, and a greater interest in real-estate investment and in development for investment purposes.



In these results the architect should be a beneficiary. He should feel the effect of a more stable real-estate market and a steadier flow of development. He may possibly even hope for an escape from the twin nightmares of the profession, feast and famine—more work than he can take advantage of and economically produce at one period, and not enough work at other times to supply him with tobacco money. He should also benefit from a situation in which experimentation may be given play and where technological improvements can be taken into consideration. He should anticipate with some pleasure a world in which the number of buildings to be produced will be adjusted more rationally to the public need for them, rather than a world in which the control of building lies in the dead hands of an unrealistic mortgage system.

These benefits to the architectural profession the National Housing Act has in its power to produce.





Wood Carving of an Earlier Day



*At top of page, the
choir stalls of Ant-
werp Cathedral
(1840-1883)*

*Detail of a confes-
sional, Antwerp
Cathedral, the fig-
ures carved at life
size*



*Detail of the
choir stalls,
Hoogstraeten*



*Detail of the pul-
pit in the Church
of St. Catherine,
Hoogstraeten,
near Antwerp.
Erected 1524-
1546*

*Detail of the choir
stall ends, Hoog-
straeten*

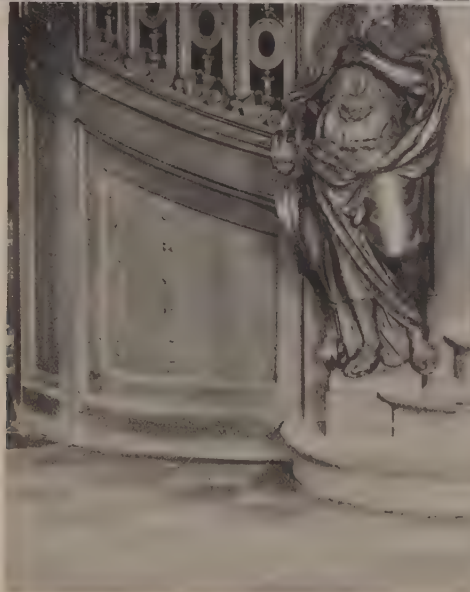


*A general view of
the choir stalls,
Hoogstraeten*

ARCHITECTURE
JULY, 1935



*Detail of the
choir stall seats,
turned up,
Hoogstraeten*



*Double stairway,
Abbey, Tonger-
loo, near Lierre*



*"Job," a com-
panion figure to
the "King David,"
at the foot of the
stairway in the
Abbey, Tongerlo*

*"King David,"
one of the figures
at the foot of the
stairway shown
above, carved at
life size*

ARCHITECTURE
JULY, 1935





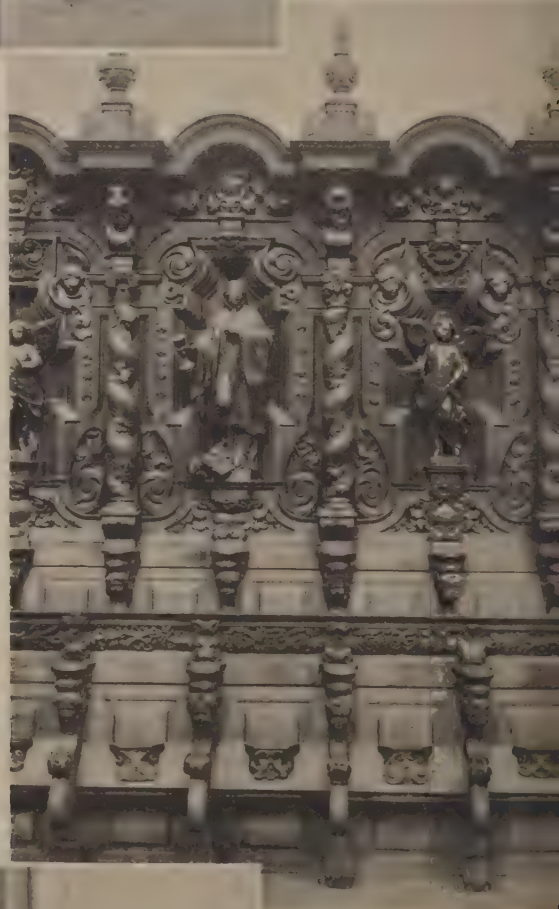
*A detail of the
choir stalls in the
Abbey, Grimber-
ghen*



*Choir-stall detail
in the Abbey,
(1664-1672),
Averbode, near
Diest*



*Choir stalls in the
Abbey, Averbode*



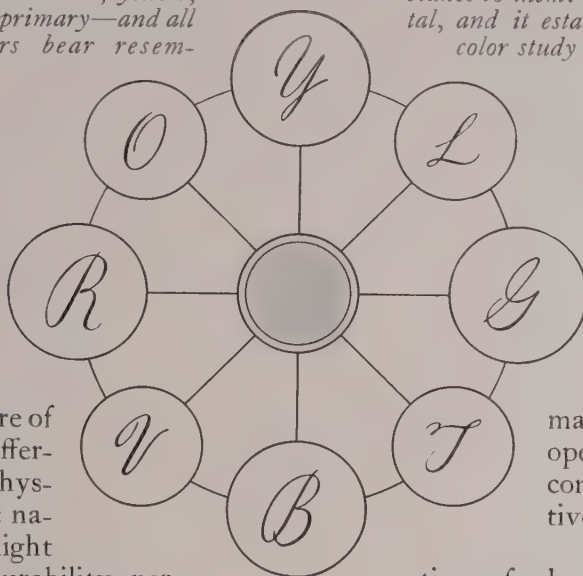
*Lectern and seats
in the Abbey at
Averbode*

Why Fear Color?

By Faber Birren

The eye distinguishes red, yellow, green and blue as primary—and all other pure colors bear resem-

blance to them. This is fundamental, and it establishes a basis for color study in architecture



THE human nature of color is quite different from the physical or scientific nature of it. Efficiency in light and heat reflection, the durability, permanence and imperviousness of colored materials, are generally known and understood. These qualities can be analyzed and measured. The architect is on sure ground.

Yet the simple appeal of color, its visual and emotional attraction, have no precise formulas—notwithstanding patented systems, devices and theories. Color is like design. Its successful use requires talent, viewpoint and a sense of form. It serves its purpose in architecture when it pleases. It has little relationship to structure or function. It is an adornment, and as such has always been an elusive problem.

Color rarely if ever is made the basis of an architectural design. However, color is often the first merit or impression on which an edifice is judged by the public.

Architects perhaps know too little about the human nature of color. Yet despite all the intangibles of color harmony and appeal there are certain facts and universal principles which ought to be known. Primarily the architect should become aware of the fact that progress has been made here too, and that color as a sensation has been fixed to laws which are fairly sure and finite. Such knowledge has come, not from the physicist or the chemist, but rather from the psychologist. And the new facts, simple though they are, represent a modern contribution to color study that has solved

many elusive mysteries and opened up a wholly new and confident approach to effective beauty.

Consider these new foundations of color law. There are four unique and elemental pure colors: red, yellow, green, blue. All other hues bear resemblance to them. Orange looks like red and like yellow—but red and yellow do not look like orange. All conceivable forms of color are derivatives of pure hue, white, and black. Hue and white form tint; hue and black form shade; black and white form gray; hue, white, and black form tone. These seven forms are all-inclusive, and every color in existence classifies as one of them.

Color harmony cannot be arbitrarily studied with pure hues only. This is because each of the seven forms—pure hue, white, black, tint, shade, gray, tone—is visually as well as psychologically unique.

Pure red holds largest preference as a brilliant hue. Yet when tinted to pink it gives way to tints of blue, green and violet. Orange as a pure hue has few champions. Yet as a shade (brown) it tops the list among all shades. Color harmony should be studied from the standpoint of color form. If it is, the architect will have surer control over it.

Color beauty in the new light of psychology is quite easy to understand because it is wholly empirical and based on observation. Here is a simple check-list of facts, all of which make perfect sense because they are so evident. With them color harmony is put on a rational rather than a theoretic or dogmatic basis—an achieve-

ment that has been the ambition of colorists for many decades.

1. If you want to gain a strong, primal attraction with color, use pure red, yellow, green or blue. Intermediate hues, such as orange and violet, will appear more refined and less instinctive in appeal.

2. If you want to use modified colors, think in terms of hue, white, and black. If you want contrast, use a tint with black (the tint contains the two primary elements, hue and white, not found in black). Further contrast will be found in shade and white or pure hue and gray (and again, in each pair, one of the forms contains the two primary elements lacking in the other).

3. If you want softer analogy, work with pure hue, tint, and white, or pure hue, shade, and black. Here your forms bear similar elements and therefore harmonize as sensations.

4. The most universal of all color forms is tone, which contains hue, white, and black. A toned color will accord with all other forms—purity, tint, shade, gray, black—because it has elements in common with them.

5. Warm hues make the best shades. Red, orange and yellow in turn form maroon, brown and olive when mixed with black. They are more appealing than black containing blue, green, or violet.

6. Cool hues generally make the best tints. Blue, green, and violet when mixed with white are more beautiful, as a general rule, than tints of red, orange or yellow.

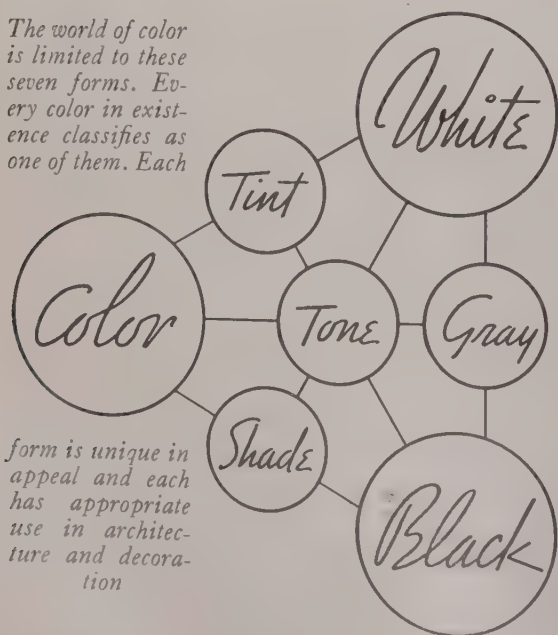
7. The form in which the color is to be used should guide choice. Remember that red makes a good pure hue and a weak tint. Orange makes a good shade but is not appealing in purity. Using two and three colors in combination is a simple task if forms are considered first and hues second. Color harmony should begin with a decision as to purity, tint, shade or tone. Then the most appealing colors in each form should be chosen. And finally, such colors can easily be adjusted to blend or contrast with each other.

8. Contrast with color generally relates itself to *vision*. Architectural exteriors, lobbies, corridors, can well use opposition of hue for lively, startling effects.

9. Analogy with color generally relates itself to *emotion*. Living-rooms, classrooms, auditoriums, places of longer occupancy, can well be treated with related hues, colors that bear resemblance. Here dominant effects of warmth or coolness, brightness or dimness, will have strong emotional influence—an effect that is sacrificed when too much contrast is involved. The warmth of red, for example, combined with the coolness of blue may startle the eye, but the emotion of one color will collide with the emotion of the other. An interior all in red, brown, buff, on the other hand, will have definite personality.

10. The “weight” of color has much influence. Deep tones seem to have stouter “structure” than pale or light tones. In exteriors too much heavy color over light color may injure the beauty of mass and form.

The world of color is limited to these seven forms. Every color in existence classifies as one of them. Each



These ten suggestions quite adequately reveal the new science of color, an art that has gotten away from rule and regulation and divulged the character of sensation. Obviously, there is nothing fussy or punctilious about these ideas. They are founded on rational facts and they find application in intelligence and common sense rather than in color scales, gadgets, and the like.

Architecture needs a more direct approach to color. Modernism has led to an overabundance of garishness, a blunt splurge of hue lacking in both originality and beauty. A new art of color is needed to complement the present revolutionized era of design. The best place to find it—thanks to psychology—is in an analysis of sensation, and what the eyes and minds of human beings distinguish, like, and dislike.

When a Sprinkler Head Goes into Action

A HIGH-SPEED MOTION-PICTURE SEQUENCE OF WHAT HAPPENED IN THE TENTH OF A SECOND AFTER THE SOLDER STARTED TO MELT

*Illustrations copyright 1935 by
Rockwood Sprinkler Co.*

*Solder beginning to melt
because of fire conditions*

*Flat turning but no lower
than in previous picture*

*"Strut" collapsing, allow-
ing water to start*

*Heavier top or flat caused
this piece to turn further*

*One piece of strut shown
just as released*

*One other of the four
pieces of the strut can be
seen at the left of the frame*

*The "flat" shown in above
illustration dropped
about one-eighth inch*

Water increasing in volume

*Water beginning to come
in greater volume*

*Full discharge of water—
in the time it has taken
the flat piece to drop
about one inch*

« ARCHITECTURE »

JULY, 1935

BOOK REVIEWS

EARLY ARCHITECTS AND BUILDERS OF INDIANA. By LEE BURNS. 37 pages, 6 by 9¼ inches. Illustrations from photographs. Pamphlet binding. Indianapolis, Ind.: 1935: Indiana Historical Society. 50 cents.

A brief account of a localized architectural development of which there is little information otherwise available. As in other early efforts in America, Mr. Burns points out the dependence of the early builders upon the handbooks of Asher Benjamin, Batty Langley, William Pain, and others.

THE CHURCH ARCHITECTURE OF PROTESTANTISM. By ANDREW LANDALE DRUMMOND. Foreword by GAIVUS GLENN ATKINS. 342 pages, 6 by 10 inches. Illustrations from photographs and drawings. Printed in Great Britain. Edinburgh: 1934: T. & T. Clark. \$6.50.

Dr. Drummond's task has been to summarize and bring together between two covers the records of an architecture that already possesses a considerable literature of its own. He, however, lays great stress on the marriage of architecture and Christianity, with comment upon how this union may be served or dis-served by the walls, furnishings, and accessories which shelter and embellish it.

INVESTIGATION OF COMMERCIAL MASONRY CEMENTS. By JESSE S. ROGERS and RAYMOND L. BLAINE. 39 pages, 6 by 9¼ inches. Illustrations from diagrams and charts. Research Paper RP 746. Pamphlet binding. Washington: 1934: U. S. Department of Commerce, National Bureau of Standards. 5 cents.

GARDENS AND GARDENING. The Studio Garden Annual, 1935. Edited by F. A. MERCER. 128 pages, 8 by 11¼ inches. Illustrations from photographs, some in color. Printed in Great Britain. New York: 1935: The Studio Publications, Inc. \$3.50, paper; \$4.50, cloth.

The Studio Year Book puts particular emphasis in its illustrations this year on American gardens, and these representatives need offer no apology to those of Austria, Canada, France, Germany, Italy, Spain, Sweden, and even Great Britain. Special contributions this year are on the subjects: chrysanthemums, the herbaceous border, the decorative value of ferns, and the spring garden.

WOOD STRUCTURAL DESIGN DATA. Vol. I. By R. G. KIMBELL, A. T. UPSON, and M. AHERN. 296 pages, 8½ by 10¾ inches. Spiral binding. Washington: 1934: National Lumber Manufacturers Association. \$1.

A compendium of factual and mathematical data, most of which is at present available, but in widely scattered sources. The volume treats, in logical continuity, of the fundamentals with which the architect and the engineer must be acquainted in order to use wood structurally in a safe and also in an economical manner.

THE ARCHITECTURAL WORK OF SIR BANISTER FLETCHER. By W. HANNEFORD-SMITH. 291 pages, 8¾ by 11½ inches. Illustrations from drawings, photographs and sketches. Printed in Great Britain. London: 1934: B. T. Batsford, Ltd. \$15.

It would be enough of a claim to enduring fame for a man to have written, as Sir Banister did, "A History of Architecture on the Comparative Method." The gifted teacher is rarely an active practitioner in the subject of his teaching, yet Sir Banister with his writing, teaching, and lecturing found time to carry on a rather extensive practice as an architect, a sympathetic record of which is found in this work.

DECORATIVE ART. The Studio Year Book. Edited by C. G. HOLME. 140 pages, 8 by 11¼ inches. Illustrations from photographs and drawings, some in color. Printed in Great Britain. New York: 1935: The Studio Publications, Inc. \$3.50 paper; \$4.50 cloth.

For those who would have on their shelves a progressive history, largely pictorial, of what our rooms look like from generation to generation, it would be difficult to secure a better history than these annual issues of the Studio Year Book. Naturally enough the present volume reflects the far swing of the pendulum toward what we consider modernism—a swing, incidentally, which seems to be already on its return.

ENAMELS. The Preparation, Application, and Properties of Vitreous Enamels. By ANDREW I. ANDREWS. 410 pages, 6 by 9 inches. Illustrations from diagrams, charts, photographs, and drawings. Champaign, Ill.: 1935: Twin City Printing Company. \$5.50.

Porcelain enamelling has become a branch of industry that has recently shown, and gives promise of showing, rapid development. The American Ceramic Society and Porcelain Enamel Institute commend this book as a comprehensive, scientific, and yet practical discussion of the subject to its uttermost chemical details. The architect who, in specifying porcelain-enamelled plumbing fixtures, believes that he is dealing with a simple product, will find a revelation in the intricacies of the processes involved.

MICHELANGELO THE MAN. By DONALD LORD FINLAYSON. 356 pages, 6¼ by 9¼ inches. Illustrations from photographs. New York: 1935: Thomas Y. Crowell Company. \$3.50.

The author, who is assistant professor of art at Cornell, feels that while the literature concerned with Michelangelo is voluminous, it is confined almost entirely to the artist's works. Vittoria Colonna, a contemporary, said: "Those who knew Michelangelo in his works alone, know only that of him which is least perfect." Mr. Finlayson has given us a particularly entertaining and apparently well-documented picture of the artist himself and his time.

WHEN a door is hung properly it will of course "stay put" when opened. This only means that the door has been properly hung and that the cut-outs for the hinges have been made accurately, as they should be. Where holes for lock spindles are made, they should be as small as possible, and locks should not weaken the mortise-and-tenon joint. The strike plates must be accurately placed so that there is the same amount of clearance above as below the bolt. A criterion of shrinkage in an old house is whether or not it has been necessary to change the strike plate.

Exterior doors are probably superior when made with a mortise-and-tenon joint, and it seems to be the consensus of opinion that a veneer on exterior doors should be $\frac{1}{4}$ ". The edges of doors should be slightly bevelled, and woods which are stringy and have a tendency to tear when planed, should be avoided for finished doors, but can readily be used for rough work where this would not be easily noticed. Most commercial doors are machine-sanded for their finish. So unless belt- or hand-sanded finish is actually specified, machine work will be used. Exterior doors of $2\frac{1}{4}$ " are recommended, not only for their appearance, but for their strength. Where exterior doors are glazed, the glass should always be back-puttied, as further protection against the weather.

Fire-proof wood doors are used in some cases, but it will probably be cheaper to use a substantial metal

Better Practice

By *W. F. Bartels*

DOORS AND WINDOWS

(Continued)

door finished to imitate wood. Metal doors have many features to recommend them to the architect and the client. They offer better protection against burglar and vandal, and, what is more important in apartment houses, they are a big safety factor in guarding against the spread of fires. After next year they will be required in practically all multiple dwellings in New York City. When the architect is specifying metal or kalamein doors, he should differentiate between those used for exterior work and those used for interior work. An investigation of metal doors over five years old will convince him that he must give careful consideration to the material, its gauge, and its manufacturer, so that his doors will not soon rust away.

Glazed iron doors which are provided with grills should have the latter so hinged that the glass may be easily cleaned. Partition doors which are cut off at the bottom, as well as regular counter doors, must be given careful attention so that the bottoms shall be perfectly smooth and not have a rough edge which may cut

one's leg if the door swings back too far. Due to the greater strength of the material, iron entrance doors can generally have narrow stiles and should not be made to look like wood doors. How often a metal door is so heavy that a frail woman can hardly open it! It will be difficult if not impossible for the architect to have the locks set on these stiles, and hence it is advisable to have a rail or other part made so that the lock, knob or handle may be so placed that one's hand will not be injured when opening the door.

Revolving doors may well be regarded as a specialty, and the architect would do well to consult the manufacturer of these doors rather than try to design them himself. All parts of these doors are carefully worked out. To show the extent to which the specialization in these doors extends, a case may be brought up where one architect desired to design the doors himself. In order to get the proper fit, the push bars were set so close to the glass that people's fingers were caught in them, resulting in bruised hands.

Garage doors which do not swing out, but fold or slide up overhead, are another specialty in doors and deserve considerable study by the architect. They are generally very easy to handle and can be opened after a snowfall without shoveling snow. The floor of the garage should be slightly higher than the apron if the apron is level, otherwise any heaving caused by frost in the ground will very likely prevent the doors from opening properly.

1—GENERAL

DAMP-PROOFING and waterproofing are so intimately associated that to many they may mean the same thing. In the trade it is generally understood that waterproofing means a process used to keep *water* out, while dampproofing is to keep *moisture* out. They both are of the utmost importance and should receive the very careful consideration of the architect and contractor. Many houses and buildings worry along without adequate waterproofing or dampproofing, but in many cases faulty material or workmanship in either of these trades causes a severe loss to the owner. In all buildings great care should be taken so that when hurricane-wind velocity drives the rain against the

DAMP-PROOFING, WATER-PROOFING, CALKING

building it will be met by sufficient resistance to keep it out.

Guarantees are too often accepted at their face value by the architect, who is prone to believe that they will protect him and the wall surface. However, this is not always the case. The guarantee may be thought to mean less work in architectural supervision, but it should not be depended upon in lieu of adequate and systematic inspection of the work. Very often the guarantee is made by the contractor with an evasion in mind. If a guarantee is accepted (it is not harmful to

take it as added protection), the following clause might well be inserted: "In the absence of any written protest filed with the architect and approved by him, there shall be no claim affecting the validity of this guarantee." Also, if a guarantee is given by the contractor it might be investigated as to whether or not this guarantee calls for the repairing of only the defective work, or if it includes the repairing of the damage resulting from the defective work.

It is always necessary to have it clearly understood just what work is to be done by the contractor and with what facilities he will be provided to execute it. Is he to furnish his own scaffolds, staging and other equipment? In case of pits, who is to keep the water pumped out while

the work is being done? Normally this latter is not a serious item, but on a large undertaking it may be a very expensive one.

2-DAMPPROOFING

Obviously dampproofing the interior of a building is done so that moisture may be prevented from penetrating into the interior, and to prevent damage to the plaster or other finish if the latter is applied directly to the exterior wall. It will, of course, be understood that dampproofing of this nature on the interior of a wall cannot hold out against pressure, but it should satisfactorily afford protection from any moisture under ordinary conditions being transmitted through from the exterior.

There are various methods of applying this dampproofing work, among these being spraying, brushing and trowelling. As a rule all of these use an asphalt base with a binder of fine asbestos fibre. Another method consists of first spraying a cementitious mixture upon the wall, followed by the spraying of an emulsion. In all of these methods the material should be carried around upon the ceiling for a border of at least 12" to 18" so that any moisture at the junction of the floor and wall above will not penetrate to the plaster below (Fig. 2A). No cutting or chasing of walls is to be allowed after the dampproofing is put on unless such places are re-dampproofed.

It is better to insist that the dampproofing be completed before the partitions are set, otherwise the film of protection is all too likely to have gaps. One of the requirements which the architect must look into very carefully, in case he is plastering directly on the wall, is that the plaster must bond completely with the dampproofing materials so that there will be no danger of the plaster peeling or falling off. Another vital requirement is that the damp-

proofing materials must have elasticity as well as durability.

Dampproofing is sometimes done from the outside after the building is completed. In most cases this is practically an admission of inferior work or decay. When the outside of a building is treated in this manner it is well to remember that if the brick or stone is fairly dense the trouble most likely lies in the joints of the masonry. It must be evident that a clear fluid cannot cover or close gaping holes, and that it is necessary to point such places up first. It is well to investigate whether or not the material to be used will change the color or texture of the exterior. If the color on the wall makes no difference, a material with a fibre in it may well be used. This probably would be more satisfactory than a clear liquid, because the fibre enables the material to span any small holes. However, such materials are obtainable only in the darker colors, and much precaution must be taken if they are to be painted over. For instance, they must first be covered with aluminum paint, after which the finish paint may be applied.

Were the best interior dampproofing job imaginable obtained on a building, it would all be for naught if a poor job of spandrel waterproofing were to accompany it. Water penetrating a masonry wall is stopped from penetrating to the interior by the dampproofing. Hence the water trickles down until it reaches the floor. At this point it would be likely to turn into the building unless it is prevented from doing so by a properly installed spandrel job. It is important that the inside flap of the spandrel waterproofing be turned up and be sealed against the waterproofing on the wall, so that the water may be forced to the outside (Fig. 2B). Spandrel waterproofing is also made necessary by the fact that the settlement between the masonry and the floor

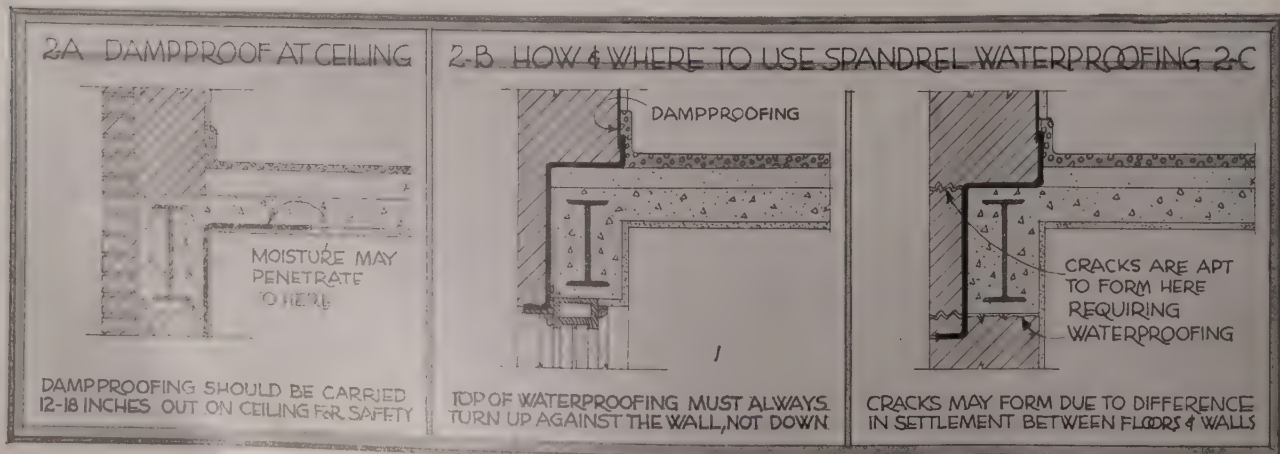
may be different in a steel or concrete structure (Fig. 2C).

On a large building erected not so long ago in New York City, considerable difficulty was caused by water appearing on the ceiling of one of the rooms. This room was directly beneath a setback. Upon investigation it proved that the dampproofing had been carried down properly to the floor, and the flashing for the setback had been properly installed. But the one vital thing that had been forgotten was a proper means of conducting the water to the outside once it had reached the bottom of the wall (Fig. 2D). It is absolutely necessary that precautions of this type be taken to prevent water from reaching the ceiling of the floor below. Some of the preventive measures necessary to be taken in spandrel work are shown in (Fig. 2E).

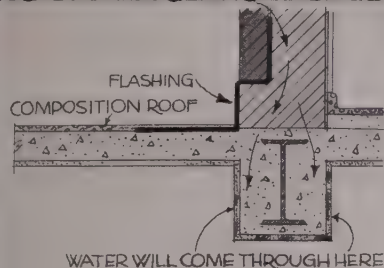
Another source of difficulty in walls arises where beams and girders are used in connection with exterior bearing walls. They must be properly protected in order to keep out the moisture.

Parapet walls are another source of annoyance when not given the proper attention to prevent water from seeping down on the inside face. They are best treated by having the flashing extended clear through them, and having the latter serve as a cap flashing for the roof flashing (Fig. 2F). If the inside of the parapet is left bare and the parapet wall is not flashed, a severe storm in all likelihood will cause damage on the floor below. Where a rail or any other iron work is sunk into a parapet wall and must pierce the flashing, an adequately protected pitch-pocket must be provided wherever the flashing is punctured (Fig. 2G).

Soft metals can be used for spandrel waterproofing, but probably would be too expensive. Ordinary waterproofing felt is of such a nature that if it were torn or injured it

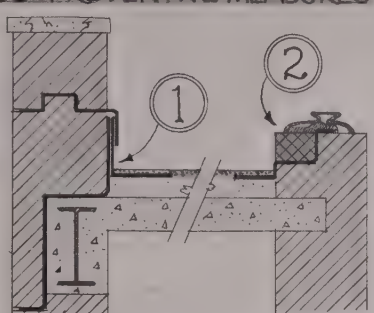


2-D DAMPPROOFING SETBACKS



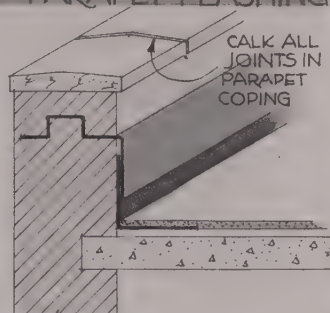
SPANDREL WATERPROOFING IS HERE OMITTED, PERMITTING WATER TO GET IN

2-E PREVENTIVE MEASURES



1. SPANDREL WATERPROOFING AT PARAPET
2. CAREFUL CALKING & FLASHING AT DOORS

2-F PARAPET FLASHING



PARAPET FLASHING SHOULD BE RUN ENTIRELY THRU WALL, FORMING CAP

might be worse than no waterproofing at all. One of the best materials is a fabric which is in itself waterproof and offers decided resistance to the ordinary rough usage it might receive on a building under construction. All materials used must, of course, be properly flashed up around the columns, adequately turned up against the dampproofing at the back of the wall, and sufficiently overlapped and sealed so that no water may enter (Fig. 2H).

Another method of dampproofing is that of raking out the joints and then filling them with a material which is water-repellent. It would be too much to ask that this material last any length of time, because the space in the joint is not enough to provide ample body.

Bulkheads may well come under the list of items requiring waterproofing, because they are generally exposed to the most severe tests put to a building. They should be treated with the same care accorded any other part of a building that is exposed to water, as well as water pressure.

Skylights have the reputation of always causing trouble. This may be diminished by keeping them well up above the roof, and by pitching the roof so that water drains away quickly (Fig. 2I).

3—WATERPROOFING

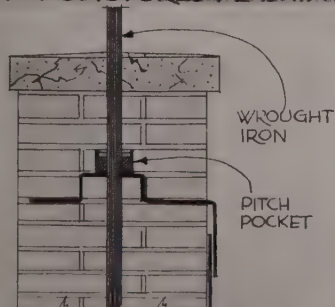
In sandy soils where there is good drainage, it may be true that no less precaution may be needed in waterproofing basement walls. But it always must be borne in mind that water plays unpredictable tricks in all soils, and it is cheaper in the long run to take great pains with the cellar walls than to have them leak for unknown reasons after the building is completed.

Much has been said pro and con concerning the adding of waterproofing materials to concrete. It has been generally conceded that cracks developing in a concrete wall will nullify the use of any integral waterproofing. However, it might be added that when a crack is seen it is more easily remedied than when there is a leak and it is impossible to find its cause. It must be admitted that nothing can be added to a mixture that will make a wall perfectly waterproof if it is made from a poor mixture of concrete. A proper proportion of cement is always necessary, and all too often in this country we use a mixture that is too scant in cement to make a good and lasting job. It is only necessary to compare the 1-3-5 mixture that is looked upon with great favor in this country, to the 1-1½-2 used in other countries. A gravelly and gritty

mixture, poorly mixed, will not give a dense, tight wall, nor will a concrete wall be waterproof unless the concrete is properly puddled to eliminate all voids through which the water may work its way. Then again, in many cases the improper pouring of concrete prevents its being waterproof, such as when the concrete is allowed to be dumped in one pile and then raked over to the rest of the form. This means that where the concrete is dropped the large and major portion of the aggregate is concentrated, to the detriment of the wall.

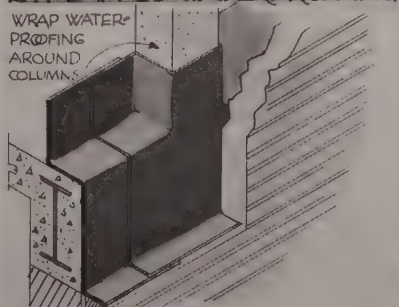
In waterproofing it must be remembered that it will be very difficult to locate leaks exactly after the building has been completed. To waterproof foundations on the outside of the wall, the material may be applied directly to the wall. Sometimes this is impractical because of the fact that the wall may be adjoining rock, or sliding earth, or be of a depth that would prevent men working between the wall and the earth. In such cases a brick or terracotta wall is built up and the material applied to it (Fig. 3A). The waterproofing should either be run under the columns and bases, or around them and up to a height above the water level. The former method is probably more depend-

2-G PUNCTURED FLASHING



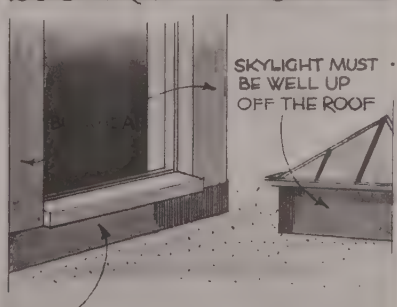
WHERE IRONWORK IS SUNK INTO PARAPET THRU FLASHING, PROVIDE A PITCH POCKET

2-H LAPPED WATERPROOFING



WATERPROOFING MUST BE PROPERLY LAPPED WHATEVER BE THE MATERIAL

2-I DOORSILLS & SKYLIGHTS



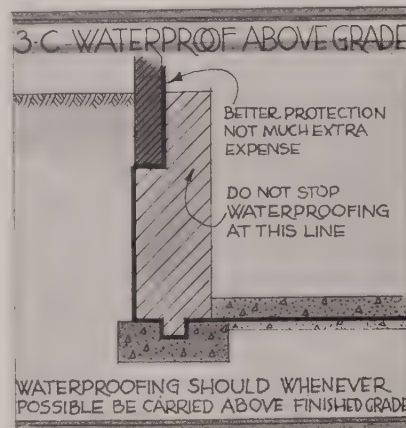
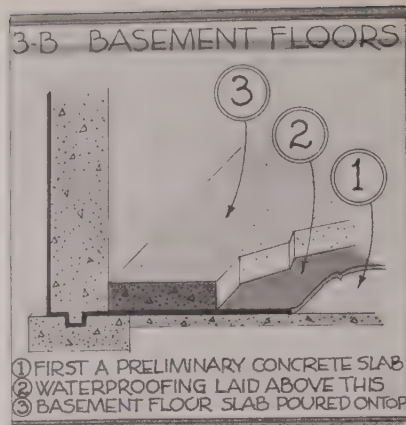
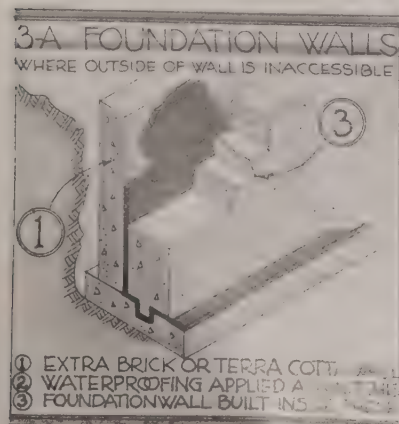
DOORSILLS SHOULD BE KEPT HIGH SO AS TO PERMIT FLASHING TO CARRY THRU

able, and it protects the steel work at the same time. In large buildings, where there is great weight upon the piers, it is better to keep the waterproofing of the piers and the walls separate from each other, so that any settling of the piers greater than that of the walls will not cause a crack in the waterproofing. Where there is a head of water present it must be remembered that the waterproofing absolutely will not carry or resist a load, and therefore the floor or wall must be designed to take care of this. All that the waterproofing can do is to keep the water from penetrating the wall or floor. Where the waterproofing fabric is used in the floor, it is better that a preliminary floor be laid, over which the waterproofing may be applied before the regular floor slab is superimposed (Fig. 3B).

When waterproofing fabric is laid in cold weather it should be well rolled and brushed into the hot tar immediately upon its being laid. Otherwise the tar will cool before it has a chance to adhere to the material. The ends of the roll or pieces should, of course, be lapped at least 8". The side lap will depend upon the number of plies it is intended to be used.

It might be well to mention here the prominence played by saturated fabrics in work of this type. They are not so susceptible to tearing and have more elasticity than the felt types of waterproofing. Watch the melting point of the pitch used in this work, because it would not be advisable to use a low-melting-point pitch which might be subjected to too much heat. Where the waterproofing is used for the foundation walls of a house or other building, it is better to see that it is carried up above grade rather than be limited to the water line. The small additional expense involved is more than compensated for by the security afforded (Fig. 3C).

It must be remembered that waterproofing applied to the interior



of a wall depends for its success upon its perfect adherence to the wall. It is readily seen that if exterior water pressure were present it would soon overcome this adherence. Therefore it would seem to be better, whenever possible, that the waterproofing be applied to the outside of the wall below grade both for better appearance and for greater efficiency.

Where sidewalks are laid over vault space, great care must be taken to connect the waterproofing to the outside wall of the vault, as well as to the dampproofing of the building. The wall of the building in such cases may well be regarded a setback, the treatment of which was described previously under "Damp-proofing" (Fig. 3D).

Bathroom floors are too often subject to dry rot if not properly waterproofed. The beams in the bathroom floor are difficult to replace. Trouble may easily be avoided by the proper installation of a waterproof fabric underneath the tile or other material. Lead pans underneath showers are generally called for, and should in all cases be installed. They should be properly flashed to the drain, and, in order to give an added guarantee, should be

« ARCHITECTURE »

JULY, 1935

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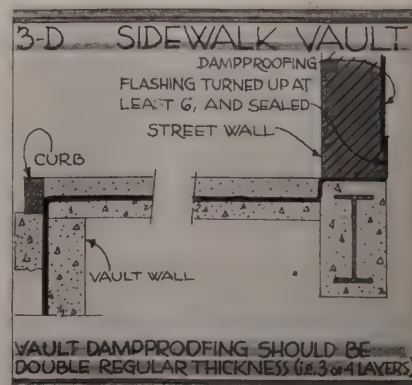
folded at the corners rather than cut and soldered. Where a shower-room is used frequently, many architects feel that they should protect the sides as well as the floor—a very wise precaution indeed. It may be done by means of sheet lead properly installed. Because leakage takes place through cracks and joints, if the entire enclosure cannot be protected by sheet lead, then it is well to have the corners and other vulnerable spots taken care of.

Roofing must be flashed up under sills so that there will be no danger of the water entering at this point. But it is well to have sills of doors opening out on to roofs of such a height that they are above the low point of the roof flashing, so that there will be no danger of water flowing in over the saddles. The latter should be set in a mastic compound to make doubly sure there is no leak (Fig. 2E).

4—CALKING

Calking is not a subject to be lightly dismissed, but is an absolute necessity for the welfare of the building. All doors and windows, including the sills as well as the heads, should be properly calked. The sills should be set in a bed of mastic when different materials adjoin, such as iron and masonry; the joint should be properly pointed up with a calking compound that will completely seal the opening against the weather. Coping stones should also have their joints calked. It is well also to rake out and fill the terra-cotta joints with calking. Not the least of the evils of omitting calking is the leakage around the frames, causing them to swell up, particularly if the back of the wooden window-frame is not protected by one or more coats of paint.

"Permanently elastic" is the misnomer often given to calking by over-zealous sponsors. But it is possible to obtain calking compounds that, when installed under direct supervision of the manufacturers, will last a considerable length of time under all conditions of weather.



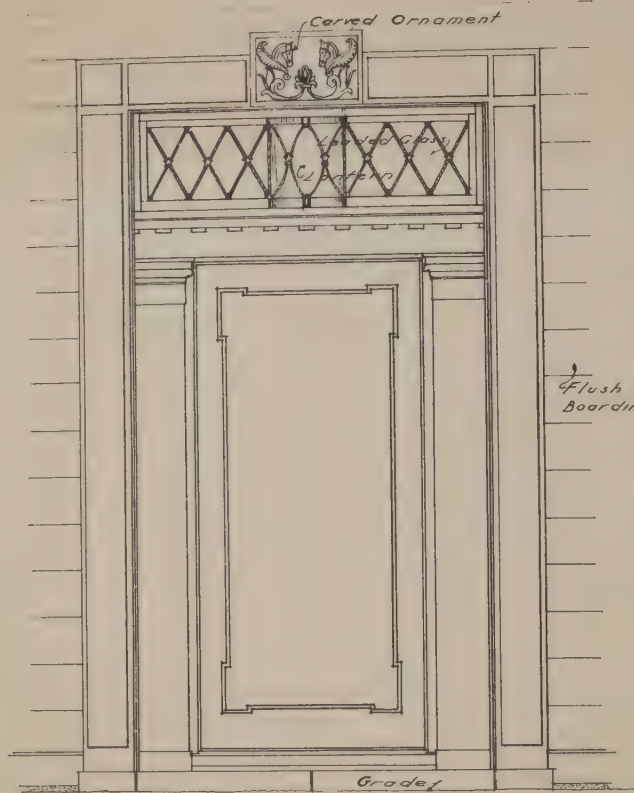
FAVORITE FEATURES



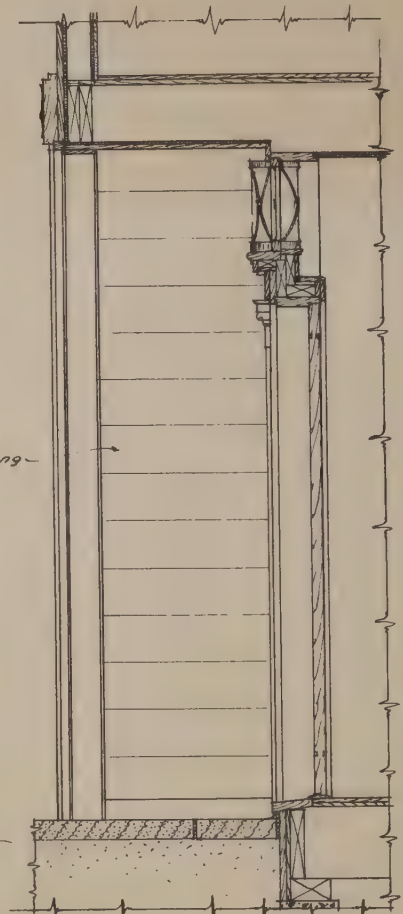
Many of the architect's creations fail to measure up to his expectations. Here is one of a series, however, that satisfy, in a measure, the designers themselves
(Scale details overleaf)

Entrance doorway,
House at Locust Valley, N. Y.

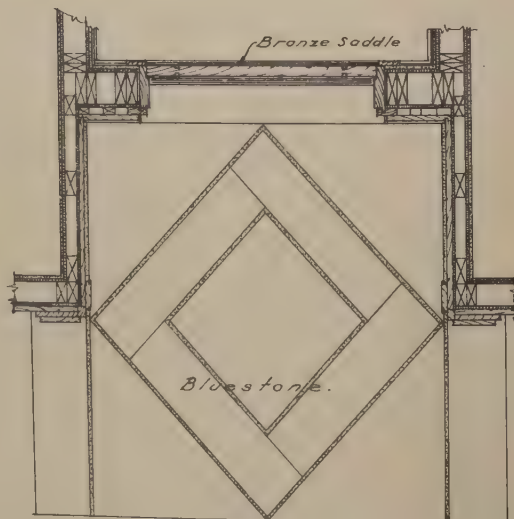
HARVEY STEVENSON & EASTMAN STUDDS
ARCHITECTS



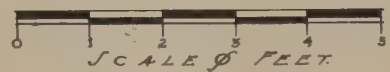
ELEVATION



SECTION



PLAN



HARVEY STEVENSON & EASTMAN STUDDS.
ARCHITECTS.
101 PARK AVENUE, N.Y.C.

Entrance doorway,
House at Locust Valley, N. Y.

Harvey Stevenson & Eastman Studs
Architects



Fig. 126. The view of Praunheim project, Frankfurt a. M., of which Ernst May was the directing architect

Rehousing Urban America

THE TITLE OF A NEW BOOK BY HENRY WRIGHT, A BOOK WHICH THIS REVIEWER CONSIDERS A NOTABLE EVENT IN ARCHITECTURAL PROGRESS*

By Albert Mayer

THE appearance of this book is of enormous significance: a study of the creative evolution of housing architecture in the past and up to now, followed by the creative projection of a living architecture into a changing future. Its facts apply definitely to housing, but its searching methods, its analyses and syntheses, are equally important for any architectural problems. No one but Henry Wright could have delivered such a book, for his experience is country-wide and he is steeped in the body of ordinary American practice; moreover, he has an understanding grasp of the European housing evolution, and he has the originality of mind to project his subject into the future. His historical study isn't just comfortably descriptive, as such things usually are; it penetrates the past just as his creative mind penetrates the future.

Wright, through his summer schools and the Housing Study Guild, has fructified the minds of many young architects—most of whom are now prominently identified with housing in Washington and elsewhere. This book enables his fruitful influence to affect architects all over the country. His book is in the best sense technical, the very soul of technique. One may and does disagree with his brief incursions into general economics, but that doesn't invalidate the main technical purposes of the book. A complete and rigorous understanding of

its substance and spirit will produce architects and engineers capable of dealing creatively with the problems of technique involved in rehousing. It is important for all of us to grasp the implications of his provocative thinking, but undesirable to accept his or anyone's conclusions—he himself says over and over again that they are tentative. His great contribution is a searching attack that bites so deeply that its results are genuinely creative. For method it is indispensable, it clears out one's dusty brain passages. I have now read it three times, with paper and pencil next to me to work things out. And I will read it at least once a year for the rest of my planning life so as to assure a constant freshening, a constant reminder that most habitual mental equipment is stale. For alert people it is a set of razor-edge tools which immensely facilitate the creative architect's job and free him for the larger syntheses. But the present tendency must be guarded against—the use of Wright's and others' tools, which are only a splendid means, as an end in themselves, as a substitute for creative thinking and designing. There is no substitute.

The book is in three sections:

Part I. Housing: The Focal Point in Rehabilitating Our Cities.

Part II. Study of the Recent Evolution and Development of Housing Techniques.

Part III. A Forecast of Planning Advancement.

Part I outlines the growth (or decay) of our cities. As the facts and

factors are so well known, they will not be discussed here. The diagrammatic rings of growth and decay epitomize the story very graphically. The habitual narrow deep lot, responsible for so much of the physical unsuitability of the housing of our cities, and which still is the stupid standard for our subdivisions, is magnificently attacked. One wonders whether it could not be made compulsory reading for all realtors. With equal effectiveness Wright shows once more how wasteful are the standard gridiron patterns of the streets of our cities, which devote as much space to them in residential areas as in concentrated business areas. He restates cogently the case for attacking the problem of rehousing in blighted districts rather than in slums.

Part II is a discerning analysis of recent housing history. Wright shows the continuity and progressive advance of development in the few large-scale American housing achievements, which, due to their rarity, are generally considered as less interrelated instances than they really are. He shows the slow change away from the narrow-deep structure, whether house, flat or tenement, with its minimum of light and maximum of waste space, into the H-shaped structure with somewhat larger courts, first 50 feet wide, then often larger. He shows the combined influence of the deep, narrow building and the large hotel, bringing relatively large apartment houses with corridors; the step forward by Andrew Thomas, who eliminated long halls by adding stairways and planned with more open courts; coming down to the simple perim-

*REHOUSING URBAN AMERICA. By HENRY WRIGHT. Foreword by LEWIS MUMFORD. 196 pages, 8½ by 11½ inches. Illustrations from plans and photographs. New York: 1935: Columbia University Press. \$7.50.

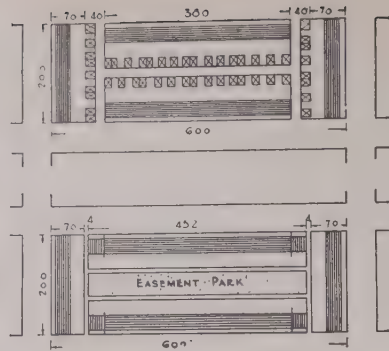


Fig. 26. At left, a view through the middle portion of a block developed in the customary manner utilizing the rear yards and garages on an alley. Contrast with this (at right) the center yard court of a Sunnyside block, in which the distance of houses from rear to rear is the same as in the alley scheme. Garages are assembled elsewhere in groups

eter planning at Sunnyside, two rooms deep, with greater simplicity and openness and the resultant economies of first cost and maintenance. There are two threads which are carried through—the group or row house, and the apartment. But their progress is roughly parallel, and in Sunnyside the two living types are successfully combined, a reminder against the present tendency of doctrinaire adoption of one type alone in any one development. Finally we reach Radburn where, due to its being on virgin soil, the planning was on a very large scale, free from the adventitious limitation to the size of city blocks, free for rational planning of safe and conveniently located parks and playgrounds, and of motor highways isolated from pedestrian traffic and placed so that a minimum of noise reaches the houses.

Wright actually had a part in most of these evolutionary steps, and his brief histories are illuminating, indicating the legal, architectural and social problems involved in these progressively larger and bolder undertakings; and, in the case of Sunnyside, showing the interesting evolution in the solution of these problems within the same project. The first-rate achievement of the hillside housing in Chatham Village in Pittsburgh was in great measure due to the previously accumulated experience of Stein and Wright. These facts indicate the importance of publishing full case histories of all such projects, past and future, so that progress may be rational and continuous. Of course, all this intelligent development was restricted to a comparatively few moderate rental developments. It would have been interesting to show how, during the same period, in the planning of expensive apartments and of sub-

divisions generally, built by speculative or investment builders, there was a dreary stagnation without perceptible advance in any large sense, except for the inclusion of more and more adjuncts of equipment—oil burners, refrigerators, etc. A major mystery is why none of the good sense of these few projects filtered into the vastly greater operations of the ordinary builders. A still greater mystery is why even now, with the evidence of breakdown all around us, banks and insurance companies are again lending money for construction of the same old apartment houses on 100-foot or 150-foot plots, with the same old excessive coverage, the same old vulnerability to outside influences due to their small size, and on the same old inferior subdivisions. The few remaining open plots are being filled with the same potential structural junk, instead of the movable junk that's there now.

The case for group and row housing and for large-scale apartment housing, as against the detached house and the small apartment house, is so strong that it is hard to understand why they haven't begun to replace them generally.

The use of incinerators, automatic refrigerators, centralized heating for large areas, permit an intelligent rearrangement and elimination of now unnecessary streets. These are the creative uses of new inventions, as contrasted with their customary use simply as gadgets. Wright develops these points effectively, and the points here as elsewhere in the book are vividly illustrated.

The last chapter of Part II is devoted to a discussion of the evolution of German housing since the War, which reached a splendid pinnacle in the Praunheim and Römerstadt developments in Frankfurt, part of "a

program which introduces large open expanses to form barriers between different parts of the community, creating a large amount of open space for recreation, gardening and general amenity." To my mind, these are the boldest, most effective, most impressive, most beautiful achievements in housing anywhere at any time. (I should, however, add the qualification that I have not seen any of the Russian housing.) Their conception and execution are on a magnificent scale, a landmark in city planning and housing. What a contrast with our present method of hacking a few blocks here and a few blocks there out of a slum! We all hope that slums will go, but if we take our *first steps* there, we set a standard of planning based on the hampering influences of existing patterns and ownerships and prices. We should *first* go where we can plan relatively freely, *then* reflect such free planning back to the slums.

Another and related point arises from a comparison of Römerstadt and Praunheim with American examples. We all fear the "regimentation" of German housing, so we go in for breaks and groupings to lend "interest." But how can we call it regimentation?—the long sweeping vistas of Römerstadt, gradually unfolding and gradually changing as we follow the rhythm of the long curves and the straight stretches. If we must use words to identify essentially architectural concepts, let us drop the contrast of "regimentation" and "interest," and substitute the more justified characterizations of continuing serenity as against conscious interruption.

Stimulating as are Parts I and II, and important as they are as groundwork for Part III, it is Part III that is Wright's great contribution to a living theory of design.

One must first assume that the architect, having in his capacity as an informed citizen done his utmost to urge on those in charge, proper concepts such as low density, ample open spaces and recreational facilities, freedom from noise and traffic, sunlight and cross ventilation—in short, the amenities generally—is finally entrusted with a project with certain determined conditions. To state this problem and the architect's subsequent problem, I cannot do better than to connect up various quotations from the book.

"The advancement in each of these classes of dwelling (group row houses and apartment houses) has been shown to derive mainly from the release from the restrictions of the narrow lot, and the organization of a considerable area in an interrelated manner. . . . In Part III we shall turn our attention to certain recent advancement in this same technique. We shall try to understand the basis of evolution of their plan forms, to secure results directly related to family needs, also their application to an orderly and complete community organization. . . . Our purpose is to elucidate the complete and connected process of planning, and to consider new departures in planning which will, however, require extensive study and refinement before they can be safely applied. . . . To confine a given number of persons within a relatively small space and to adjust it to their constant use throughout the year, not only must every portion of the plan be thoroughly adequate for its purpose, but also every attention be given to suitability of exposure, pleasantness of outlook. . . . Architects are handicapped in this field because they are mainly familiar with problems in the high rental field, so that often their personal position in society bars them from an appreciation of the mode of life and requirements of quite a different income range. These needs cannot be learned merely from statistics or even from an examination of their present living conditions, since opportunities for the development of an appropriate way of life have been restricted by the use of congested and badly arranged quarters. . . . In planning, the designer must study individual plan arrangement and efficiency, bearing in mind that all his plan types should generally be part of a single genus standardization in construc-

tion, mechanical parts, stair locations, etc.* . . . Until the choice of the most favorable relationship has been made as to different plan positions within the project as a whole, it is unessential for him to work out interior details of each plan if by experience he knows the amount of building length and depth necessary to insure satisfactory results."

Wright then goes through the actual process of planning a row house development and an apartment-house development, step by step, from the start, giving specific consideration to each of the factors just mentioned, through the necessary series of site-planning and interior-planning approximations, to typical solutions. As in the whole book, there is an admirable series of photographs and plans which are more than illustrations; they are part of the substance of the book, and illuminate each point.

In connection with this planning, he develops a chapter, "Aids to Plan Study," which might less modestly be called the essence of planning. I quote him again: "The designer is frequently handicapped by a tendency to start with a preconceived idea and to develop one phase of his problem by means of drawing-board adjustment rather than to reason by premise and deduction. This is less likely to lead to improvement of planning technique or the discovery of new plans than is the formulation of methods of procedure which permit him to try out a number of variations before becoming absorbed in the perfection of a single type." In Figs. 150-154 he takes the essential elements of a plan—stair, bath, kitchen and approximate known frontages of other rooms, and puts them together in various ways. Having determined advantages and economical shapes (aided by studies of first cost and maintenance) these

* These are quotations taken from pp. 99-102, and p. 114, paraphrased so as to be properly connected here.

are tested out in site plans, for good unit plans may not necessarily yield the best site plans, or community organization. The detailed plan is then restudied to a point where it is finally checked for its economy and suitability, for its adaptability to various family sizes, and for its space-quality, furnishability, outlook and orientation, privacy within and without the apartment.

An example of such intelligent evolutionary study is shown in Fig. 166. Fig. 166B shows the original plan. The advantages of Wright's further developments are obvious. This whole process indicates the importance of the analytic method in creative design. The first step is born of the conception of more apartments per stair than the simple link plan affords, but retaining cross-ventilation. Every successive step in evolution and improvement is the result of close analysis, both in this immediate case and from previous analyses of cost and planning relationships. By changing the direction of the stair, and the distance of overlap of the two legs of the Z, a variety of arrangements and improvements is obtainable. Further, the B and C in which the left and the right half of the plans are a half story apart, lend themselves, as Wright shows, to particularly advantageous basement and roof solutions.

The chapter on planning as affected by new construction methods, especially the development of structures where exterior walls and partitions are not used for support and partitions are readily movable, culminates in a suggestive demonstration of flexibility of interior space, and its convertibility into apartments of various sizes and qualities as may be required during the physical life of a building, which as we all know now far exceeds its usable life. The point made by Wright is that if the basic elements of site planning, outlook, orientation, open spaces,



Fig. 128. Plan of the Römerstadt project, Frankfurt a. M., built in 1928

are permanently sound, then the new movable elements permit adjustment of the apartments themselves to the changing family sizes and requirements which may come.

The chapter on analytic and cost studies is important, particularly in three respects: it shows the importance of considering comparative operating costs as well as the more usually considered first costs; it indicates rapid methods of cost comparisons which are nevertheless sufficiently close for the architect's use in arriving at plan types; and, finally, as no plan can have every economy, it indicates the comparative importance of various items that generally differ in different plans. In this connection it will be seen that the importance of different cost items will change with prefabrication or other changes in construction methods. For instance, the coupling of baths and kitchens back to back, which is now a minor economy in comparison with others, will become of major importance when prefabricated units are used.

The chapter on the living quality of three-dimensional space as against two-dimensional lines on plans, together with the related questions of outlook, orientation, sunlight penetration and prevailing breezes, initiates a set of considerations that are too little considered currently. Here, as at other points, Wright adumbrates the problems and gives opinions without making any claim at finality, and emphasizes the need of further study.

It is seen that the design of housing and of communities is on such a scale and involves so wide a range of factors, experience and talents, that a project requires the collaboration of minds variously trained, and beyond that it requires collaboration in the sense of full exchange of information and experience as between the agencies and practitioners in the field. Such collaboration, and such analytic methods as outlined, need not for a moment dim the spontaneity and the fire of creative design. If rightly used they should supply a firm grounding to assure that creative design will have a vital relation to the life of the day and to the desirable life of the future.

In such a discussion as this, in such a book as Wright's, in actual design, one must deal in great measure with abstractions—with I-plans, with T-plans, with population densities, with plan efficiencies, with

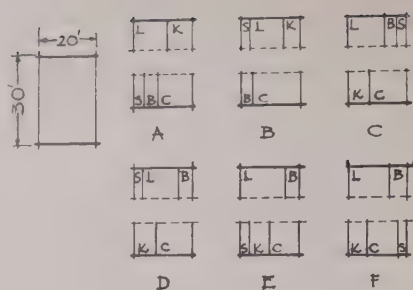


Fig. 150. Illustrating a study method to determine various room combinations within a given building length

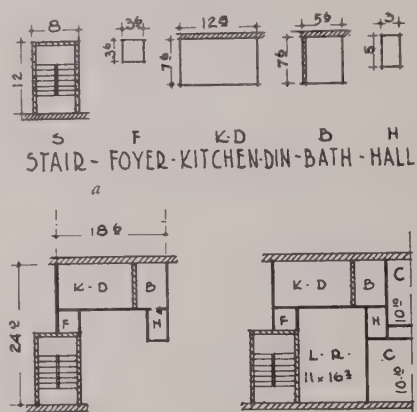


Fig. 151. Illustrating an analytical method of building up a plan type from minimum basic service length



Fig. 166. Evolution of a Z-shaped apartment plan devised by the Housing Study Guild to secure four apartments per floor off a single stair, without hallways

percentages of space for recreation. They are crystallized summaries of experience. But they are valid only as they become mobile, fluid in the hands of sensitive designers, and only as these designers are con-

stantly conscious that they are designing for people, only as they are responsive to the habits and needs and aspirations of *people*, only as they will dedicate their imagination to exalt the bodies and spirits of *people*. Without this leavening, crystallized experience becomes mere formula. We are not designing in order to achieve I-plans or T-plans, or a certain percentage of open space—not any of these as ends in themselves. Only as we apply these in particular cases with the delicate adjustments that fit them for specific human beings as such, can we call ourselves architects. This is the spirit of Wright's book and of his work. Let us see to it that it is this living substance that we get out of it.

One or two miscellaneous things remain to be said: 1. The book lacks a bibliography or summary of references. 2. Wright uses the word "rehabilitation" throughout the book in its broad sense, and not in the newly technical sense of alteration or renovation in contrast to new construction. 3. I think it requires a note of explanation that in this review of a book on housing there is no discussion of the important underlying social and economic problems. The reason is that the book does not address itself to these—at least in anything like as exhaustive a fashion as in the case of the technical problems. Wright's purpose—and achievement—is to develop a technique capable of carrying out, in architectural terms, policies whose main outlines will be determined in another arena—the architects having previously, in their capacity as alert and informed citizens, played as large a part as possible in shaping those policies.

The price of the book is unfortunately high. Here is a case where one of the foundations, those legendary good angels, should step in and subsidize the book so that it can be put within easy reach of all who need it. But whether they do or not, every architect should have access to it. And while this possible foundation is at it, I suggest it arrange to subsidize Henry Wright as Housing Thinker-at-Large. Heaven knows the subject requires some one to think about it with all his time, and all his mind, rather than to sandwich it in between the jobs that permit him to support himself. And there is no better candidate than Henry Wright.

Tuesday, April 30.—Spent an interesting afternoon with Aymar Embury, going over the architectural studies for the Tri-Borough Bridge and for the midtown vehicular tunnel under the Hudson. One comes away with a feeling of having had the cells of his mind expanded as though by a glove stretcher. The architects and engineers concerned with these two tremendous projects have had to think in a scale widely differing from the one with which the architect ordinarily deals. Naturally, the progress of the study shows a constant march towards simplification. The further one goes with these drawings, the more dropping off of excrescences, elaborations, and every tendency of fussiness. Incidentally, since Embury was trained as an engineer before he became an architect, there has been in this work a particularly close and harmonious association of those contributing towards the structural and the architectural factors of the whole. The two have never been separated—as has so often unfortunately been the case. Engineer and architect have here marched forward to an achievement, hand in hand.

Friday, May 3.—A committee of the Institute has been working for many months in the development of a standard filing system for architectural plates and articles. W. H. Tusler of Minneapolis, has served as chairman, and his committee has produced what seems to be a well-balanced scheme that meets the first essential—adaptability to a wide variety of needs both in subject matter and in quantity. I am wondering, however, whether now that the Institute has devised an official filing system for plates, we may discover that filing habits have changed. Certainly there must be considerable likelihood of an architect looking over his accumulation of collected plates, from time to time, and deciding that 90 per cent of them are mere impedimenta. Now that we have this admirable system of filing, possibly the architect will file nothing more, but keep, instead, unbroken sheets of his architectural journals, properly indexed.

Tuesday, May 7.—Miss Katherine Cole motored A. F. Brinckerhoff, Charles N. Lowrie, and myself up to Hillside Houses this morning in a soaking rain to study the landscape problem facing Mrs. Marjorie Sewell Cautley. It is a curious thing, when one comes to think of it, that while we speak glibly of low-cost housing, we never speak of low-cost landscaping. Just as in housing, there are certain fundamentals in solidity of construction, planning for light and air—elements that are not susceptible of cost reduction—so it is in landscaping these projects. It would be absurd to decide that a few ailanthus trees and some gravel would be suitable accompaniment of low-cost housing. Good landscape belongs with the essentials,



The Editor's Diary

and cannot be cheapened. One can use deciduous material instead of evergreens, but soil and lawns and planting technique cannot be skimmed.

Thursday, May 9.—Harrie Lindeberg and a good many others are perturbed over the fact that *The New York Times*, in reviewing the recent General Electric Small House Competition, made the complacent statement that the designs show a definite trend toward the flat-roofed type of house. As Lindeberg says: "Every architect in the world knows that the architect's age-old enemy is water—whether it's rain or melting snow. We're somehow expected to keep the water outside the house—and every practical architect knows that there is no such thing yet evolved as an inexpensive flat roof that will not leak. Flat roofs are not intelligent, realistic house design, and most of us who are directly responsible to the people who are to live in the house prefer to build roofs that will shed rather than collect water. Call this a prejudice, if you will, but grant us our reasons, at least, for this cherished architectural whimsy. We don't want leaking roofs and can't see constant repairs, inside and out, as any sensible part of a low-cost house. . . . Thus is confusion spread in the land, and the impression given that something is happening in house design which isn't happening at all."

Friday, May 10.—Julian Levi invited a number of us to his office this afternoon to meet Jacques Greber, who had brought over from Paris with him some of the preliminary drawings of the Exposition of 1937. It is to be built along the Seine, centering at the Eiffel Tower and the Trocadero. Four or five bridges tie the two sides together, these bridges possibly to be equipped with moving sidewalks on which one can be transported across the river but without too much lingering over the view. Best of all, the scheme has a plan—a backbone, an obvious framework, of which one would be aware in any part of the grounds.

Wednesday, May 15.—The Federal Housing Administration has published a little booklet which tells the layman

"How You Can Build, Buy, or Refinance Your Home." It is in the form of questions and answers, and seems to have covered almost any question that could come up. These booklets, I imagine, may be had without charge from the Federal Housing Administration, in case an architect would like to send one with a letter to an interested prospect.

Saturday, May 18.—The architectural clinic idea seems to be spreading. Some members of the Baltimore Chapter have formed the Architectural Service Corporation of Maryland. The members make, in their leisure time, plans for houses costing less than \$7,500, which they file with the corporation. A prospective owner calls at the office of the corporation, selects a design if he finds one to suit him, and is put in touch with the architect who made it. The architect visits the site, adjusts the basement levels to fit it suitably—or he may refuse permission for the design on this particular site. The architect secures bids, prepares contracts, and supervises construction. None but minor changes are permitted in these stock plans, these to be paid for on a time basis. The fee is considerably less than the normal—just how low we are not told. The corporation is supported by a membership fee and also by a service fee paid each time a job goes through the organization.

Monday, May 20.—Lunched with H. VanBuren Magonigle, Hubert Ripley, and Russell Whitehead. As an indication of the lengths to which architects are going in their extremity, the talk was almost entirely of an herb garden which I am making, and for which Sir Hubert had many and appetizing suggestions, both as to what herbs should be included, and what to do with them after they had grown to maturity.

Thursday, May 23.—It has been some years since the grand staircase faded out of the main lobby of the office building. The last one of these that occurs to me is the grand staircase in the Metropolitan Life Insurance Building on Madison Square, New York City. Soon after that, staircases wandered off into a back hall, possibly even to a stair-tower, giving way to the bank of elevators. In office buildings of recent years, the last thing one would expect to see upon entering an office building is a staircase.

And yet the newest tall building of all, the International Building in Rockefeller Center, has a grand staircase immediately facing the main entrance—but it is a moving staircase. An escalator moves up, and beside it one moves down. Flanking this pair, two others lead to the basement, and the elevator bank is relegated to the rear.

(Continued on page 36)



W. L. Plack of Philadelphia, retired, who has attended many conventions



Harry F. Cunningham of Washington, D. C., with Russell F. Whitehead in the background

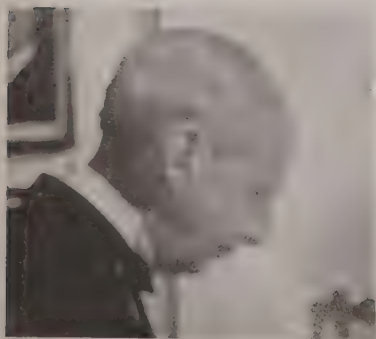


Richard Philipp, one of our Milwaukee hosts



William Stanley Parker of Boston

Below, F. P. Byington of New York, of the Producers' Council



Frank J. Baldwin of Washington, D. C., ex-secretary of the A. I. A., with Frederick Bigger of Pittsburgh

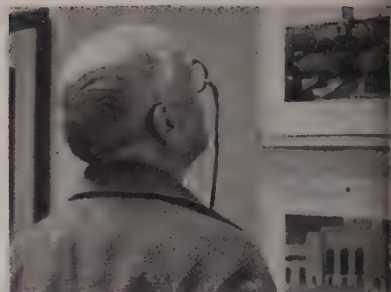
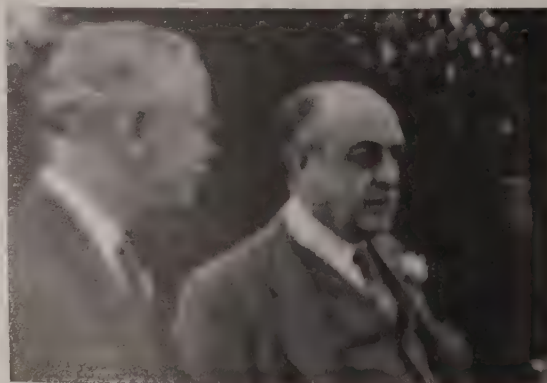


The new president, Stephen F. Voorhees of New York, with Alvin E. Harley of Detroit



David J. Witmer of Los Angeles and Charles F. Cellarius of Cincinnati

Below, George S. Koyl of Philadelphia, with Hobart Upjohn, newly elected president of the New York Chapter

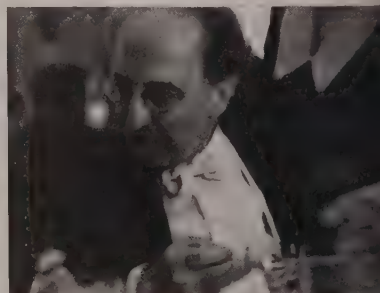


Charles D. Maginnis, of Boston, preferred art galleries

Faces at the A. I. A. Convention



Ralph T. Walker, outgoing president of the New York Chapter



Alexander E. Eschweiler, Sr., dean of the Milwaukee architects

Below, J. André Fouilhoux of New York, partner of the late Raymond M. Hood





H. W. Buemming, another of our Milwaukee hosts



Ex-Governor Walter J. Kohler at his garden party surrounded by an attentive group of architects



Louis LaBeaume of St. Louis, elected first vice president

Caught by the Editor's Camera



The newly elected second vice president, F. P. Sullivan of Washington, D. C.



Hubert G. Ripley of Boston and Frederick W. Garber of Cincinnati



M. H. Furbringer of Memphis



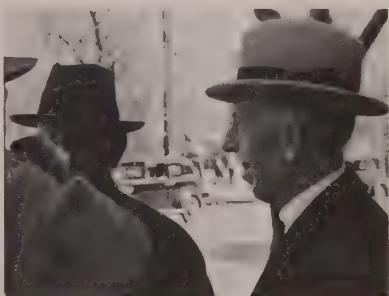
Alexander C. Guth, another of our Milwaukee hosts



Past-President Irving K. Pond of Chicago



Ely Jacques Kahn of New York and Frank Brotz, general manager of the Kohler plant

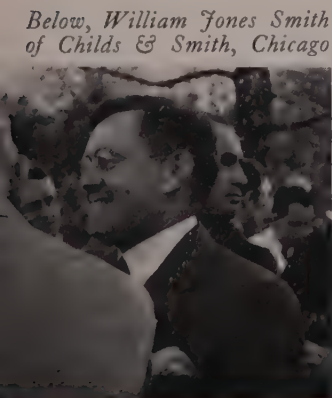


George C. Nimmons of Chicago, talking with Charles C. Zantzing of Philadelphia and Charles D. Maginnis

Below, the outgoing president, Ernest J. Russell of St. Louis, with Raymond J. Ashton of Salt Lake City



Below, the executive secretary of the A. I. A., Edward C. Kemper



Below, William Jones Smith of Childs & Smith, Chicago

(Continued from page 33)

Sunday, May 26.—The Producers' Council had invited members of the architectural press to share their special car en route from New York to Milwaukee, the scene of the Sixty-seventh Annual Convention of The American Institute of Architects. As it turned out, there seemed to be two or three of the architectural press to one Producer.

Monday, May 27.—Having picked up a few more Producers and another member or two of the architectural press in Chicago, we arrived in Milwaukee to find the Hotel Schroeder humming with a dazzling array of A. I. A. badges—orange ribbons for the delegates, blue for alternates and other members, white for affiliates, green for members of the Producers' Council, and red for guests and press. Depression or no depression, the convention seems fully up to its usual size. Almost all of the familiar faces one sees year after year are here, with a large sprinkling of new ones.

Tuesday, May 28.—Mayor Daniel W. Hoan welcomed the convention to Milwaukee, giving us, incidentally, a vivid impression of a mayor who has a highly developed social sense and is following that lead in the conduct of his city. With the address of the president, Ernest J. Russell, an interesting paper on "The Beginnings of the Institute" by Frank C. Baldwin, a brief but stirring appreciation of the late Thomas R. Kimball by William L. Steele of Omaha, and the masterly organization and detail of Edwin Bergstrom's report as treasurer, the morning session ended.

The voice of Washington was heard in the afternoon session: Louis A. Simon, speaking for the Supervising Architect's Office; Bertholf M. Pettit, for the PWA; Miles L. Colean of the FHA; and Pierre Blouke of the reconditioning activities of HOLC. Francis P. Sullivan, chairman of the A. I. A. Committee on Public Works, read a masterly report upon the necessity for the closest co-operation with the federal authorities in Washington, rather than any suggestion of mere job seeking on the part of the profession.

In the evening, Charles D. Maginnis presided over a meeting on the subject of architectural education, which meeting, I am sorry to say, a number of us, having dined too lengthily, missed.

Wednesday, May 29.—After a short morning session devoted largely to approval of decisions previously reached by the Board of Directors, the convention piled into large buses and drove ninety miles to the village of Kohler for the outstanding pleasurable event of the convention. After the drive directly north along the lake front, we passed through Sheboygan, and were served luncheon in the Recreation Hall of Kohler Village some three miles beyond. After luncheon we inspected the various

processes by which clay products, enamelled iron ware, and brass become plumbing fixtures. The village of Kohler, with its Waelderhaus, its community club, band, scout troupes, musical clubs, and its many other indications of an intensive organization, impressed many of us particularly by the neatness and beauty of its planting. A question as to how the lawns and planting were achieved and maintained brought the answer that it was entirely a matter of individual responsibility. This responsibility has been so highly developed that a resident would no more think of allowing his grass to remain uncut, his planting to become straggly, than he would of hanging out wash in the front yard. It just is not done.

It seemed rather more than ordinary hospitality to entertain the one hundred fifty to one hundred seventy-five visitors at luncheon and during the afternoon, but when former Governor Walter L. Kohler and Mrs. Kohler entertained us all at supper in their home at Riverbend, we gained a new idea of Wisconsin hospitality.

Thursday, May 30.—The convention sessions which lasted throughout the day and far into the night, broken only by a luncheon with the Producers' Council at which former Governor Kohler spoke, proved to be a prolonged and tiresome attempt to take the constitution and by-laws apart and tinker with the gears. I doubt very much whether, after the experience of this day, there will be within the generation another such useless waste of time and energy in an A. I. A. convention.

In the last few moments of the 1934 convention a resolution, unconsidered and undebated, was passed directing the Board to prepare the necessary changes in the organization to provide for the unification of the entire architectural profession within the A. I. A. We brought it upon ourselves, therefore—this deluge of amendments—and having caused the Board untold labor and thought by a casual last-moment gesture of the 1934 convention, we found the result quite unpalatable. By the time the long day had dragged to its close, there was very little left of unification, very little left of attempts to hasten and promote the unification idea. We shall go along pretty much as we were. One thing is sure: if there were two or more such days in our A. I. A. conventions for two or three years running, I imagine that delegates would have to be forcibly compelled to attend. It was a good deal like the man who has acquired a new automobile. Over the week-end, instead of going for a ride, he takes the machine apart nut by nut, and puts it together again.

Friday, May 31.—This morning proved to be one of the most productive sessions of the convention. Business was dispatched with celerity. To my great

joy, the subject of small-house practice was not allowed to pass unnoticed, as I had feared it might be, but was discussed in detail and with enthusiasm. Experiments are in process throughout the country, leading to a better knowledge, we trust, of how to serve the "lower 85 per cent" of the population. These experiments—in Baltimore, Buffalo, Detroit, and many other places—should bring new knowledge of a workable procedure—knowledge which, in accordance with the sentiment of the meeting, must be passed along to the whole membership as quickly as it is acquired.

The announcement of the elections merely confirmed what had seemed to me to be the sentiment of the delegates. This convention was marked by an utter lack of electioneering or whispered politics. Both of the candidates for president had the admiration, respect, and enthusiastic loyalty of all. There was most assuredly not, as had been carelessly prophesied, a break between those desiring an "executive president" and those desiring an "art president." There was, however, in evidence a growing realization of the fact that the office of president of the A. I. A. has become one that brings a particularly heavy burden. Around the luncheon table or in other leisure moments one heard occasionally the suggestion that the presidency should be divided into two offices, in some form, so that with one we could recognize and express our admiration for our elder statesmen; in the other office we could station a younger man who expects hard work and would be fully able to shoulder the immense amount of administrative detail.

The last afternoon of the convention was given over to golf matches, inspections of Milwaukee's famous breweries, and her less famous, but perhaps most interesting, museums of art and their exhibitions.

Tonight, with Robert D. Kohn presiding, the final convention dinner was held at the University Club. Glenn Frank, president of the University of Wisconsin, read a scholarly address on the present state of the nation and the choice of paths ahead of us. Governor Philip F. LaFollette having been unable at the last moment to attend, the toastmaster had our inimitable Louis LaBeaume pinch-hit for him, and his speech will go down in the history of A. I. A. banquets as a gem of impromptu wit garnished with some wisdom.

There seems to be a custom—growing year by year—holding that the final dinner does not constitute the end of the convention, but rather gives way to a prolonged and increasingly enthusiastic series of farewell gatherings in public and private rooms. Certainly no recent convention outdid the Milwaukee one in this respect, so that when, in the small hours of the morning, the final farewell in a long series of farewells had been made, one was glad that he had come to Milwaukee, and sorry to be going.



HOUSE AND STUDIO OF MISS MARGARET COLEMAN
PASADENA, CALIF.

Elmer Grey

ARCHITECT

Photographs by Hiller Studio

"I like the Margaret Coleman house best among my small houses because it serves an individual purpose, that of a combined home and music studio; and because the owner joined so wholeheartedly with me in trying to make of it an individual house."

ELMER GREY

In view of the fact that the architectural profession will unquestionably devote more of its energies during the next few years at least to the design of the small house, we have asked one hundred architects to send us, each, the best small house that he has designed. These will be published from time to time during the coming months, and should prove a source of information and inspiration in this field.—Editor

ONE HUNDRED SMALL HOUSES

« ARCHITECTURE »
JULY, 1935



The oak timbering of the studio has been given a color about like that of driftwood. Floors are of heavy oak plank in random widths

« ARCHITECTURE »
JULY, 1935

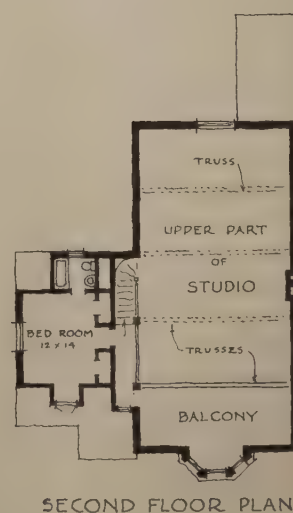
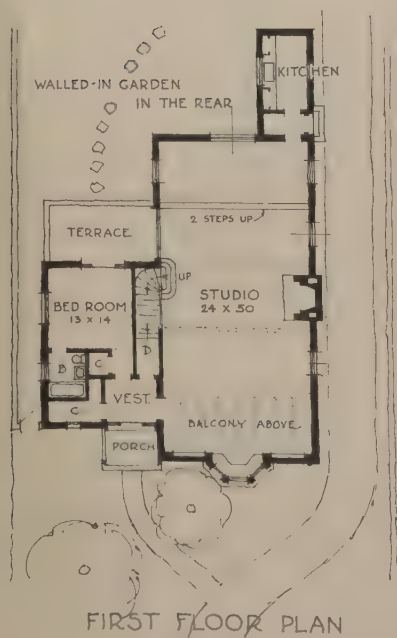


An acoustical plaster was used for the walls, with which a large amount of mineral wool was incorporated. The color, too, a dull straw, was mixed with the plaster

« ARCHITECTURE »
JULY, 1935



The brick walls were laid without a level or plumb line, which gives them a texture that is clearly revealed in this picture by the almost overhead sun. The color is a very light buff—a cement paint. For the roof, heavy split shingles are used



As the plans indicate, everything has been subordinated to the two-story studio. The kitchen is tiny, located off the raised end of the main floor

« ARCHITECTURE »
JULY, 1935



Outside woodwork is cypress, finished with a dark brown creosote stain. Roof is of hand-split shingles. The stucco is a light buff

HOUSE OF CHALMERS HADLEY
CINCINNATI, OHIO

Charles F. Cellarius

ARCHITECT

Photographs by Charles H. Longley

"It has always seemed to me that the architect must solve two problems: first, to satisfy his client; and second, to achieve a result so practical and beautiful as to meet his own professional ideals."

CHARLES F. CELLARIUS

ONE HUNDRED SMALL HOUSES

« ARCHITECTURE »
JULY, 1935



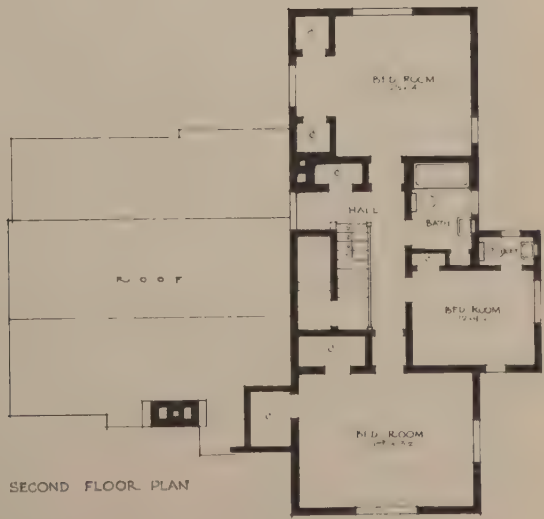
The feature of the interior is a two-story living-room with its adjoining book alcove, both of which are faced with vertical chestnut boards, burned with a torch and waxed. Floors are of plank in random widths, showing the wooden pegs. It has been scraped across the grain, and finished in a rich brown. The tiles for the fireplace facing are a dull reddish brown. Between the ceiling beams the plaster is of a cream tone, slightly antiqued



The general arrangement of the plan was dictated by the fact that there was a beautiful view in one direction toward the rear. An interesting detail is the combination of pantry and breakfast room opening out upon the end porch. The land slopes down on this side of the house sufficiently to bring the basement garage at grade under the kitchen and maid's room



The dining-room has the same oak plank floor as the living-room, scraped across the grain and finished dark brown. Here the plaster has a texture slightly rougher than a float finish. The trim here, as throughout the first floor, is of oak with a dark brown stain



The height of the living-room takes away a considerable portion of the second-floor area. Nevertheless, there is room for three bedrooms, a bath, and a plentiful supply of closets



The house as seen from the garden side presents the living-room wing and its large window of grouped casements as a dominant element

« ARCHITECTURE »
JULY, 1935

NUMBER 105 IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS
ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS

ARCHITECTURE'S PORTFOLIO OF BRICK CORNICES

*Subjects of previous portfolios are listed below
at left and right of page*

❖1926
DORMER WINDOWS
SHUTTERS AND BLINDS

❖1927
ENGLISH PANELLING
GEORGIAN STAIRWAYS
STONE MASONRY TEXTURES
ENGLISH CHIMNEYS
FANLIGHTS AND OVERDOORS
TEXTURES OF BRICKWORK
IRON RAILINGS
DOOR HARDWARE
PALLADIAN MOTIVES
GABLE ENDS
COLONIAL TOP-RAILINGS
CIRCULAR AND OVAL WINDOWS

❖1928
BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

❖1929
DOORWAY LIGHTING
ENGLISH FIREPLACES
GATE-POST TOPS
GARDEN STEPS
RAIN LEADER HEADS
GARDEN POOLS
QUOINS
INTERIOR PAVING
BELT COURSES
KEYSTONES
AIDS TO FENESTRATION
BALUSTRADES

❖1930
SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS
CASEMENT WINDOWS
FENCES OF WOOD
GOTHIC DOORWAYS



*Below are the subjects of
forthcoming Portfolios*

Signs
AUGUST

Chimney Offsets
SEPTEMBER

Window Heads
(EXTERIOR, ARCHED)
OCTOBER

Unusual Brickwork
NOVEMBER

Shutters and Blinds
DECEMBER

Fireplaces, Mediterranean Types
JANUARY

*Photographs showing interesting
examples under any of these head-
ings will be welcomed by the Edi-
tor, though it should be noted that
these respective issues are made up
about six weeks in advance of
publication date.*

❖1931
BANKING-ROOM CHECK DESKS
SECOND-STORY PORCHES
TOWER CLOCKS
ALTARS
GARAGE DOORS
MAIL-CHUTE BOXES
WEATHER-VANES
BANK ENTRANCES
URNES
WINDOW GRILLES
CHINA CUPBOARDS
PARAPETS

❖1932
RADIATOR ENCLOSURES
INTERIOR CLOCKS
OUTSIDE STAIRWAYS
LEADED GLASS MEDALLIONS
EXTERIOR DOORS OF WOOD
METAL FENCES
HANGING SIGNS
WOOD CEILINGS
MARQUISES
WALL SHEATHING
FRENCH STONEWORK
OVER-MANTEL TREATMENTS

❖1933
BANK SCREENS
INTERIOR DOORS
METAL STAIR RAILINGS
VERANDAS
THE EAGLE IN SCULPTURE
EAVES RETURNS ON MASONRY
GABLES
EXTERIOR LETTERING
ENTRANCE DRIVEWAYS
CORBELS
FEW ENDS
GOTHIC NICHES
CURTAIN TREATMENT AT
WINDOWS

❖1934
EXTERIOR PLASTERWORK
CHURCH DOORS
FOUNTAINS
MODERN ORNAMENT
RUSTICATION
ORGAN CASES
GARDEN FURNITURE
WINDOW HEADS, EXTERIOR
SPIRES
BUSINESS BUILDING LOBBIES
ROOF TRUSSES
MODERN LIGHTING FIXTURES

❖1935
CIRCULAR WINDOWS,
GOTHIC AND ROMANESQUE
TILE ROOFS
MOLDED BRICK
DORMER WINDOWS
ENTRANCE SEATS
OVERDOORS, INTERIOR



*Norwalk, Conn.
Frank J. Forster*



*Hollywood, Calif.
Carl Jules Weyl*

*Charlottesville, Va.
Thomas Jefferson*



*Montecito, Calif.
The Office of Reginald D. Johnson*





*Summit, N. J.
Clark & Arms*



*Portland, Ore.
Herman Brookman*

*Bronxville, N. Y.
Perry M. Duncan ; C. Cabell Garrett*

*Darien, Conn.
Wesley S. Bessell*





*Denver, Colo.
W. E. & A. A. Fisher*



*Union City, N. J.
Frederick G. Frost*

*Denver, Colo.
W. E. & A. A. Fisher*

*New York City
Murgatroyd & Ogden*





*New York City
Kerr Rainsford; Taylor, Holmes & Converse*

*New York City
York & Sawyer*



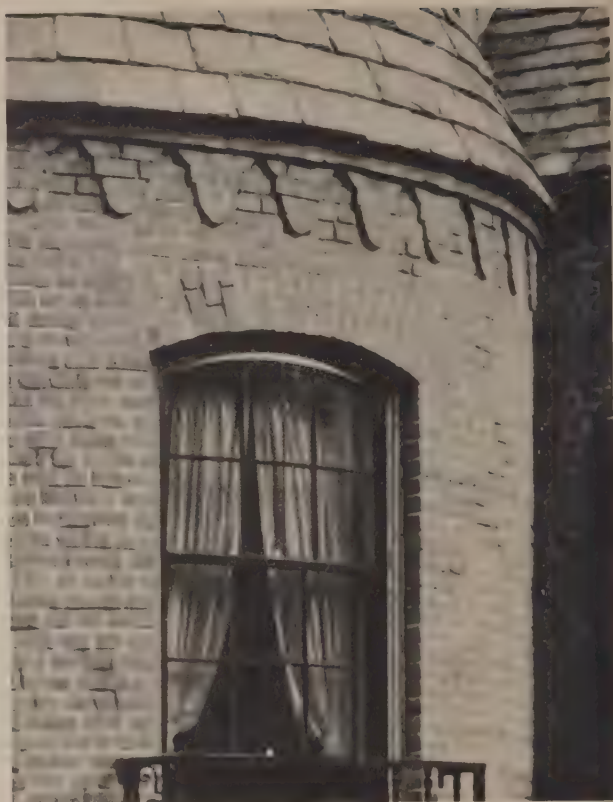
*Union City, N. J.
Frederick G. Frost*

*New York City
Treanor & Fatio*





Fontainebleau



*Bernardsville, N. J.
Godwin, Thompson & Patterson*

*Brookville, N. Y.
Bradley Delehanty*

*Hempstead, N. Y.
Godwin, Thompson & Patterson*





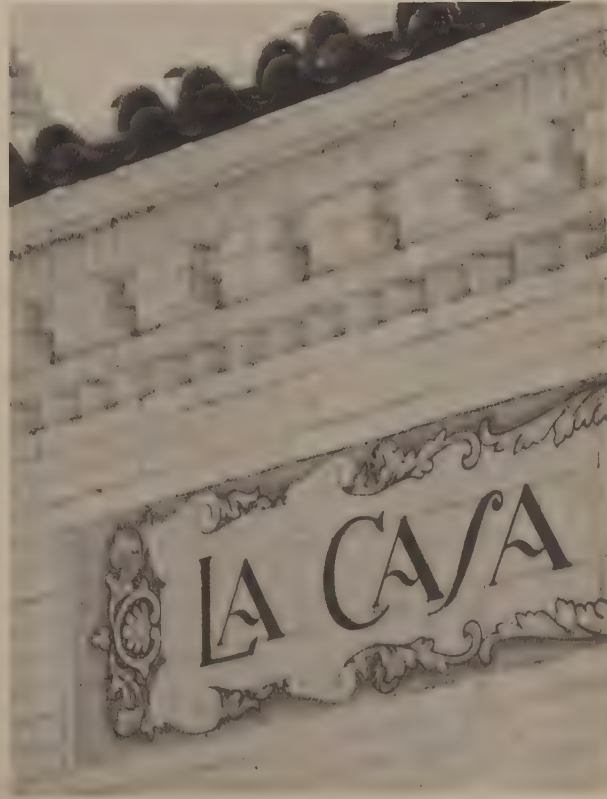
Darien, Conn.
Wesley S. Bessell



An old stable
New York City

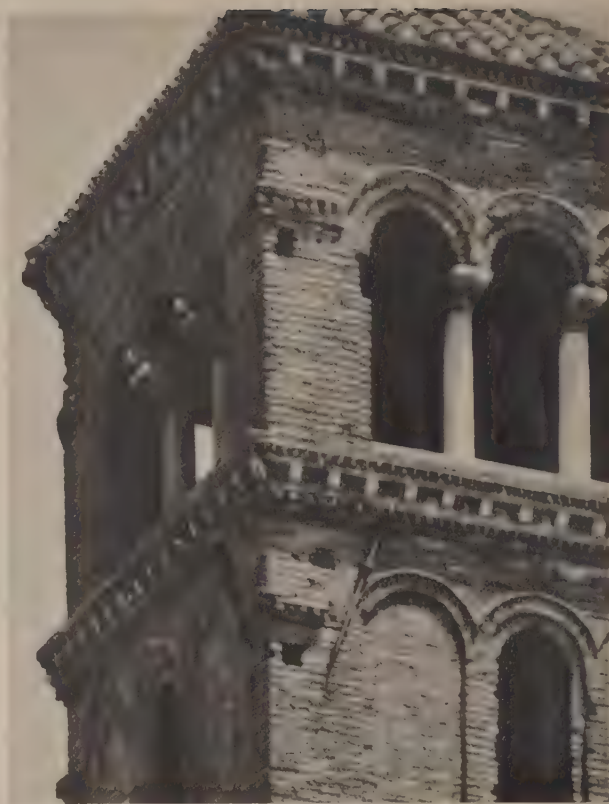
New Rochelle, N. Y.
Julius Gregory

Southern California
Marshall P. Wilkinson





*Baptistry (sixth century)
Ravenna, Italy*



*Church of San Giorgio (seventh century)
Rome, Italy*

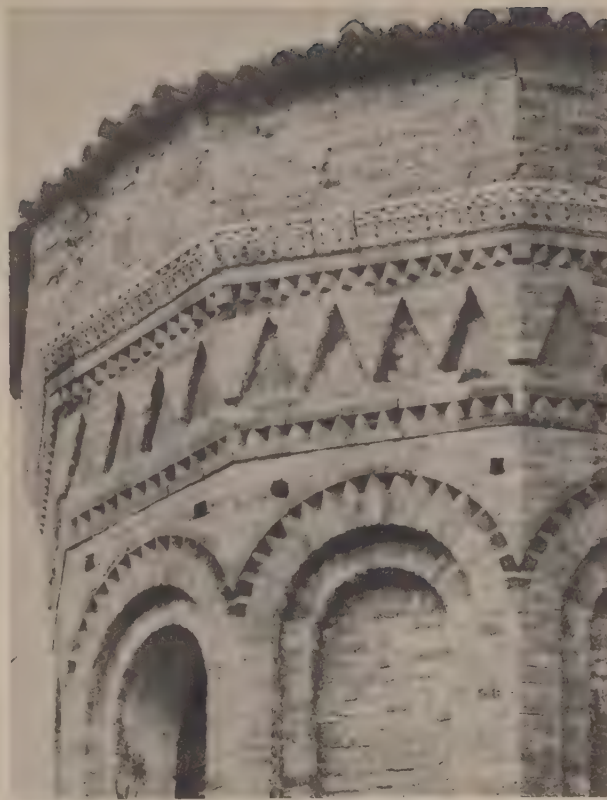
*The Old Castle
Neustadt, Germany*

*Church of San Niccolo (1310)
Treviso, Italy*





*Basilica of San Ambrogio (eighth and ninth centuries)
Milan*



*Church of San Fosca
Venice, Italy*

*Church of San Claudio (thirteenth century)
Macerata, Italy*

*Church of San Martino (thirteenth century)
Palaia, Italy*





Old New Orleans



*Williamsburg, Va.
W. Duncan Lee*

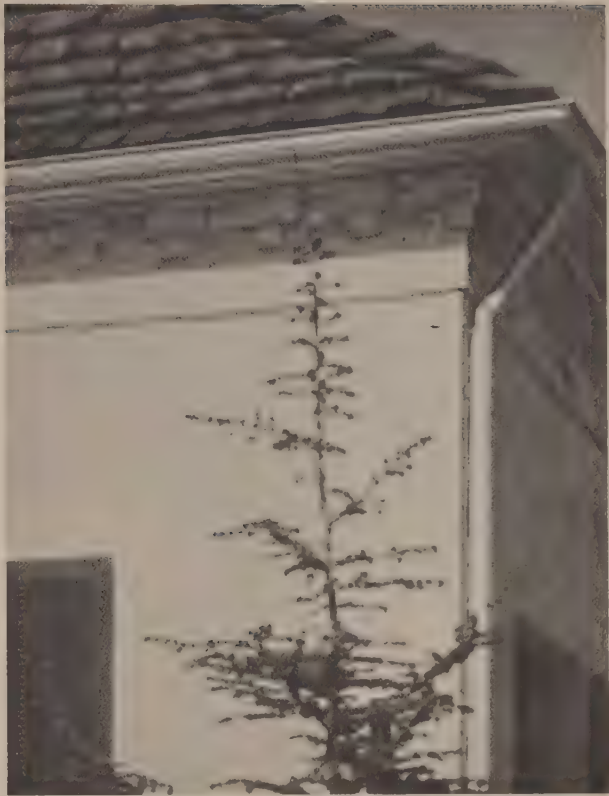
*Philadelphia, Pa.
Edmund B. Gilchrist*

*San Antonio, Tex.
Harvey P. Smith*





*Teaneck, N. J.
Hacker & Hacker*



*Los Angeles, Calif.
Roland E. Coate*

*Pittsburgh, Pa.
Ingham & Boyd; Clarence S. Stein and Henry Wright*

*Bedford Village, N. Y.
Godwin, Thompson & Patterson*





*Sunnyside, N. Y.
Clarence S. Stein*



Old Town Gate near Antwerp

*New York City
Treanor & Fatio*

*New York City
M. Levy*





Hamburg, Germany
O. Gerson



Great Neck, N. Y.
LeRoy P. Ward

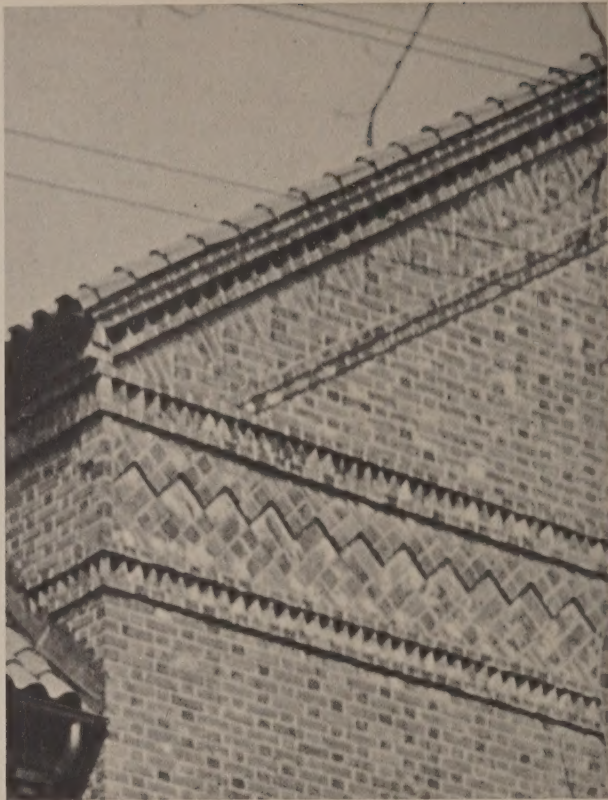
New York City

New York City
Cross & Cross





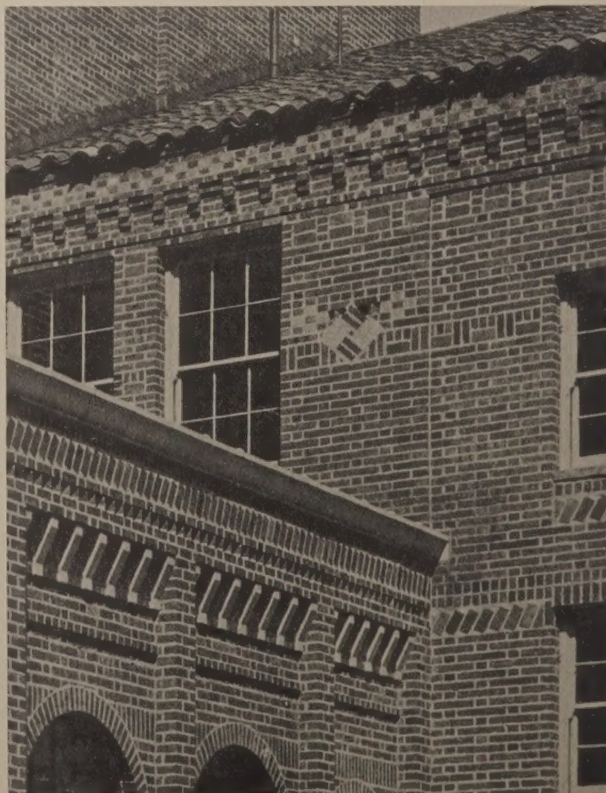
Cuckfield, England

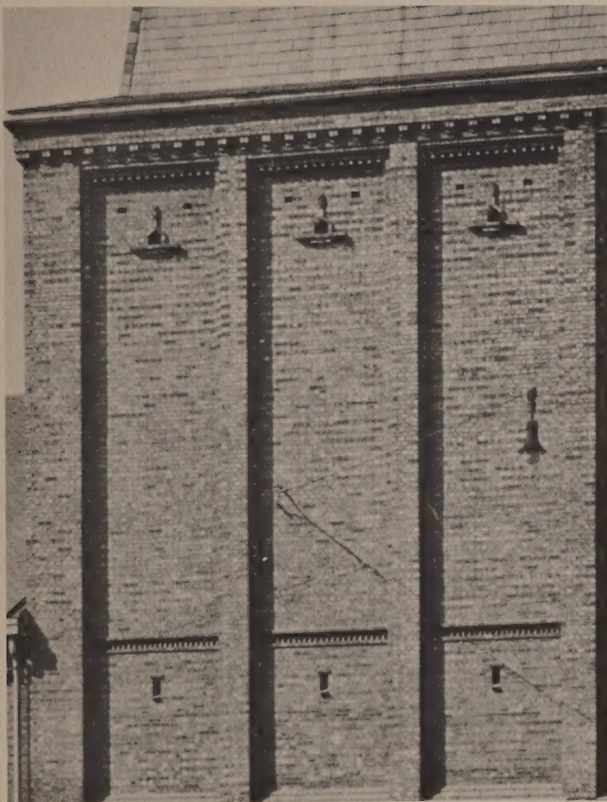


*Newark, N. J.
Electus D. Litchfield; Pliny Rogers*

*Sunnyside, N. Y.
Clarence S. Stein*

*Denver, Colo.
W. E. & A. A. Fisher*





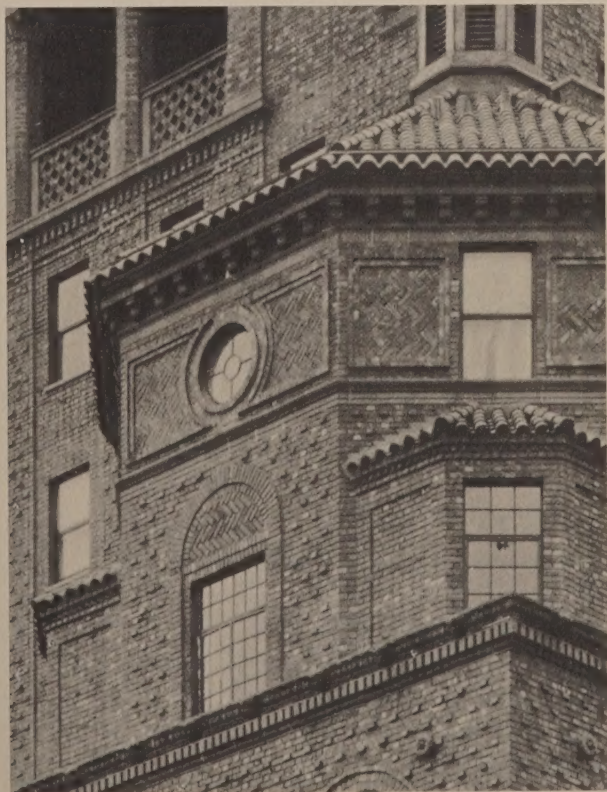
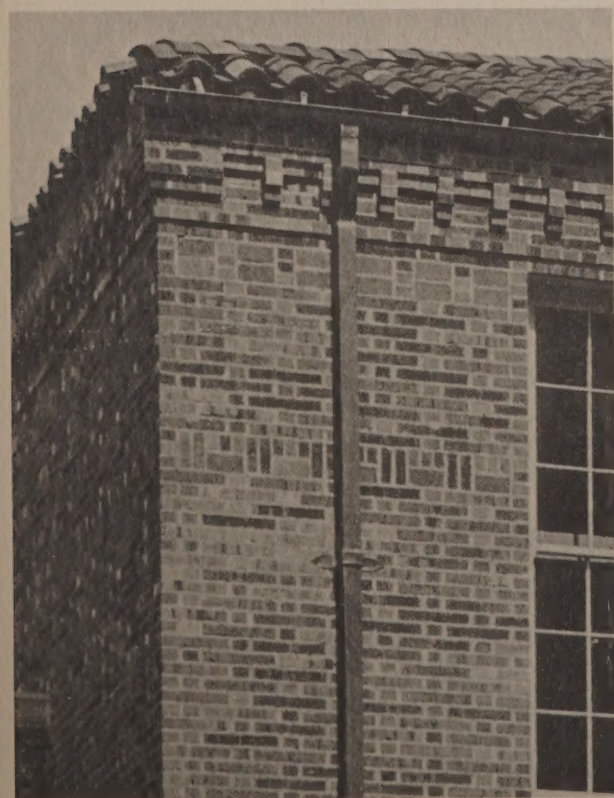
*Oslo, Norway
Lars Backer*

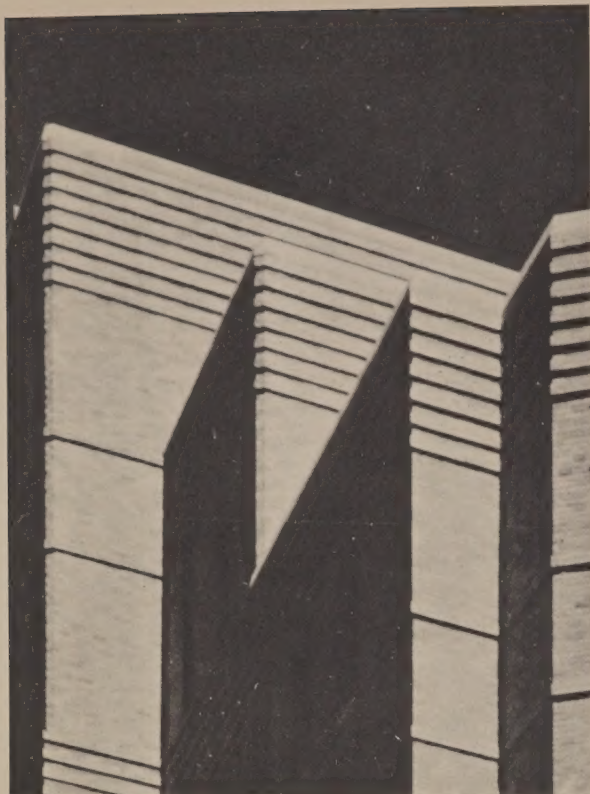


Old Charleston, S. C.

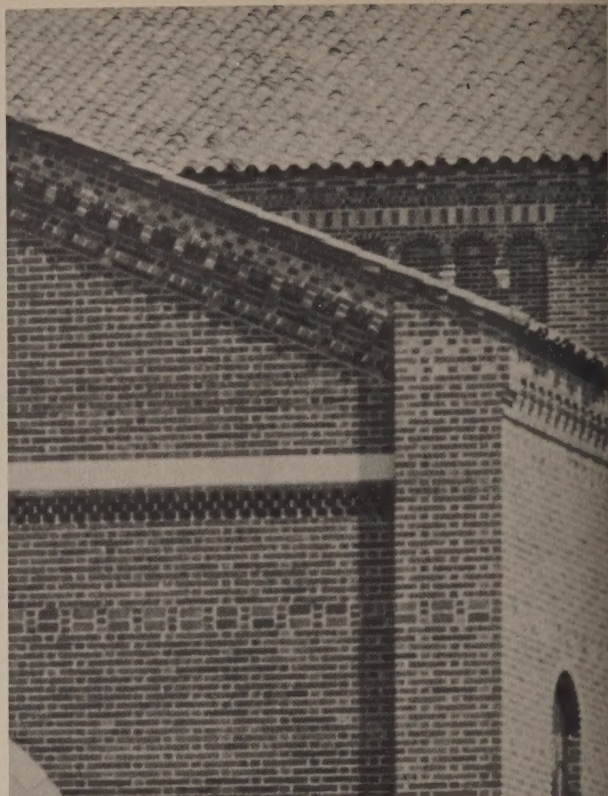
*Denver, Colo.
W. E. & A. A. Fisher*

*New York City
Murgatroyd & Ogden*





New York City
James Gamble Rogers



Denver, Colo.
W. E. & A. A. Fisher

New York City
Treanor & Fatio

Hampstead, England

